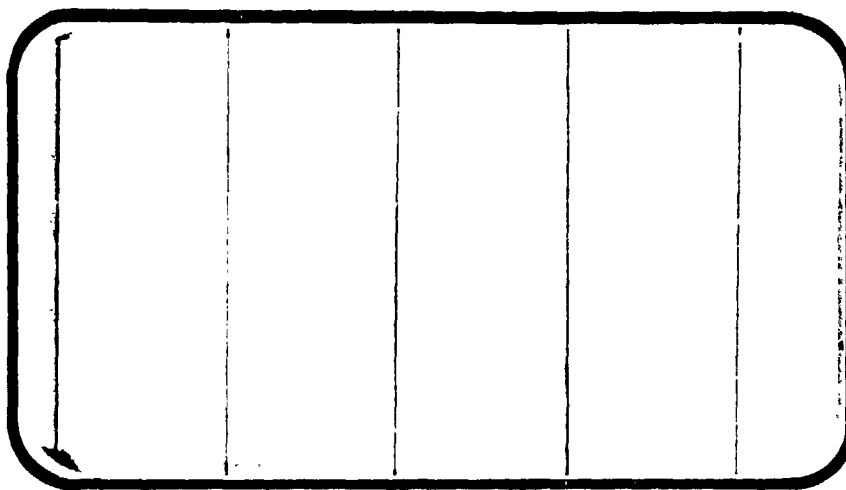




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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(NASA-CR-141810) REENTRY AERODYNAMICS
FORCES AND MOMENTS ON THE ENGINE NOZZLE OF
THE 146-INCH SCUD FOCKET BOOSTER MODEL 473
TESTED IN MSFC 14 BY 14 INCH TRANSONIC WIND
TUNNEL (SA30F) (Chrysler Corp.) 340 F HC

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER
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REENTRY AERODYNAMIC FORCES AND MOMENTS ON THE
ENGINE NOZZLE OF THE 146-INCH SOLID ROCKET
BOOSTER MODEL 473 TESTED IN MSFC 14 x 14 INCH
TRISONIC WIND TUNNEL (SA30F)

by

J. D. Johnson, NASA/MSFC
W. F. Braddock, NSI

Prepared under NASA Contract Number NAS9-13247

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Test Dates: March 3 - 13, 1975

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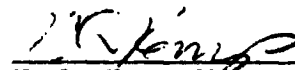
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ABSTRACT

To determine aerodynamic forces and moments that are imposed on the nozzle of the Space Shuttle Solid Rocket Boosters (SRB's) during reentry, a test of an SRB model was performed in the Marshall Space Flight Center 14 x 14-inch Trisonic Wind Tunnel. The model (MSFC #473), a 0.5479 percent scale SRB model, was instrumented with a six-component force balance that was attached to the model nozzle so that only forces and moments acting on the nozzle were measured. The test, TWT-611 (NASA Series No. SA30F), occupied the tunnel for 72 hours between March 3 and March 13, 1975. One hundred thirty seven (137) runs (20 degree pitch polars) were performed during this test. The total angle of attack range that was covered during the test was from 60 to 185 degrees. Test Mach numbers were 1.96, 2.74, and 3.48. Test Reynolds numbers were between 5.2×10^6 and 7.6×10^6 per foot. Five external protuberances were simulated (four launch hold down struts and an aft separation rocket pod). The effective roll angle simulated (for an SRB on the right side of the launch vehicle)

was 180 degrees. Effects of the three following heat shield configurations were investigated: (1) no heat shield, (2) heat shield attached to the aft skirt, and (3) heat shield on the nozzle behind the aft skirt. Schlieren movies were made during selected runs at Mach 3.48.

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SCHEDULE OF COEFFICIENTS PLOTTED

(A) CNM, CLMM, CA, CBL, CYNM, CYM versus ALPHA

NOMENCLATURE

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
AF		Abbreviation for axial force	
b_{ref}	BREF	Reference span (same value as l_{ref})	
C_A		Total axial force coefficient in the body axis system	
C_{A_m}	CA	Total axial force coefficient in the missile axis system, $F_{AN}/q_\infty S_{ref}$ (nozzle balance)	
C_l		Rolling moment coefficient in the body axis system	
C_{l_m}	CBL	Rolling moment coefficient in the missile axis system (nozzle balance), $M_{x_m}/q_\infty S_{ref} l_{ref}$	
C_m		Pitching moment coefficient in the body axis system	
C_{m_m}	CLMM	Pitching moment coefficient in the missile axis system (nozzle balance), $M_{y_m}/q_\infty S_{ref} l_{ref}$	
C_N		Normal force coefficient in the body axis system	
C_{N_m}	CNM	Normal force coefficient in the missile axis system, $F_{NN}/q_\infty S_{ref}$ (nozzle balance)	
C_n		Yawing moment coefficient in the body axis system	
C_{n_m}	CYNM	Yawing moment coefficient in the missile axis system (nozzle balance), $M_{z_m}/q_\infty S_{ref} l_{ref}$	
$C_{p_{c1}}$	CPS(1,2(etc))	Balance cavity and skirt interior pressure coefficients; $\frac{P_{c1} - P_\infty}{q_\infty}$	
C_y		Side force coefficient in the body axis system.	

NOMENCLATURE (Continued)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
C_{Y_m}	CYM	Side force coefficient in the missile axis system, $F_{Y_N}/q_\infty S_{ref}$ (nozzle balance)	
F_{A_N}		Total nozzle axial force in the missile axis system, positive in the negative direction of X_m	lb
F_{N_N}		Nozzle normal force in the missile axis system, positive in the negative direction of Z_m	lb
F_{Y_N}		Nozzle side force in the missile axis system, positive in the positive direction of Y_m	lb
l_{ref}	LREF	Reference length (inside diameter of nozzle exit)	
M	MACH	Mach number	
M_{X_m}		Nozzle rolling moment in the missile axis system, i.e., moment about the X_m - axis (a positive rolling moment tends to rotate the positive Y_m - axis toward the positive Z_m - axis)	in.-lb
M_{Y_m}		Nozzle pitching moment in the missile axis system, i.e., moment about the Y_m - axis (a positive pitching moment tends to rotate the positive Z_m - axis toward the positive X_m - axis)	in.-lb
M_{Z_m}		Nozzle yawing moment in the missile axis system, i.e., moment about the Z_m - axis (a positive yawing moment tends to rotate the positive X_m - axis toward the positive Y_m - axis)	in.-lb
MRP		Abbreviation for moment reference point	
NF		Abbreviation for normal force	

NOMENCLATURE (Continued)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	
P_{ci}		Balance cavity and skirt interior pressures	1
P_t		Free stream total pressure	psi
P_∞		Free stream static pressure	psi
PM		Abbreviation for pitching moment	
q_∞		Free stream dynamic pressure	psi
RM		abbreviation for rolling moment	
	SCALE	Model scale	
S_{ref}	SREF	Reference area (cross sectional area of nozzle interior at exit plane)	in. ²
SF		Abbreviation for side force	
T_t		Tunnel total temperature	°F
X,Y,Z		Body axes system coordinates (for an airplane, the X, Z-plane is the plane of symmetry, the origin of the axes system is the center of gravity or any other convenient point, and the X axis is the airplane longitudinal axis)	
X_m, Y_m, Z_m		Missile axis (see text and Figure 1)	
	XMRP, YMRP, ZMRP	Distances of MRP from nose and centerline of model in missile axis system (XMRP measured in negative direction of X_m)	in.
YM		Abbreviation for yawing moment	
α		Angle-of-attack	degrees

NOMENCLATURE (Continued)

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
α_t	ALPHA	Total angle-of-attack, angle between the X_m - axis and a vector in the direction of the air flow	degrees
α'		Angle of attack of model when model support mechanism is set at zero pitch angle	degrees
β		Angle-of-sideslip	degrees
γ	GAMMA	Nozzle deflection angle due to aerodynamic loads on model (positive in same direction as δ_N)	degrees
δ_N	GIMBAL	Angle between nozzle centerline and SRB centerline (nozzle gimbaled in X_m - Z_m plane, positive downstream)	degrees
ϕ	PHI	Roll angle, i.e., angle between the missile Y_m - axis and the body Y-axis (from a pilots viewpoint in an air-plane, a positive roll angle is a clockwise rotation)	degrees

SUBSCRIPTS

c	Cavity
i	Identifies the location of the balance cavity and skirt interior pressure measurements
m	Missile axis system
N	Nozzle
ref	Reference conditions
t	Total conditions, or total angle
∞	Free stream conditions

INTRODUCTION

The wind tunnel test described herein was conducted to determine the magnitude of aerodynamic forces and moments that will be imposed on the engine nozzle of the Space Shuttle Solid Rocket Boosters (SRB's) during reentry.

A 0.5479 percent scale model of a right side 146-inch diameter SRB was used to perform the test. The exterior of the model was rigidly attached to a sting. A six-component balance was placed inside the model tail section and the balance was also rigidly attached to the sting. A scaled engine nozzle was attached to the free end of the balance. This arrangement allowed the balance, with nozzle attached, to flex inside the model; therefore, the balance responded to only those forces and moments that were imposed on the nozzle during the test.

The model, designated MSFC Model 473, was tested with only one external protuberance configuration and at only one roll angle (180 degrees). However, it was tested with three nozzle deflection angles and three heat shield configurations.

Data from this test are presented as nozzle aerodynamic coefficients versus SRB angle-of-attack for different heat shield configurations and different nozzle deflection angles.

MODEL AND TEST HARDWARE

The model was a 0.005479-scale representation of a 146-inch diameter Space Shuttle Solid Rocket Booster. The model was designed and fabricated by NASA. The general arrangement of the model and the major dimensions are shown in Figure 4. Note that this figure shows the model at $\phi = 0$ degrees and the model was tested only at $\phi = 180$ degrees.

All parts of the model were machined from stainless steel. The model was designated MSFC #473 and consisted of the nose, tail, skirt mounted heat shield, nozzles (three with nozzle mounted heat shields), a nozzle adapter, a balance adapter, an aft separation rocket pod, and a center body with an integral side mount. Parts from MSFC Model #468 were also utilized for this test. These parts included four detachable tie down struts and all of the support hardware required to mount the model in the test facility model support mechanism. All the major parts, with the exception of the support hardware, are shown in Figure 5. The wind tunnel balance and tubes that were used to measure pressures are also shown in Figure 5. An installation photograph of the model, with the tail section removed, is presented in Figure 6. Figure 7 shows the model ready to test.

As stated above and as shown in Figure 5, model parts included a balance adapter. This adapter could be used to attach the balance to either end of the model center body; however, during this test the balance was only attached to the forward end of the center body as shown in Figure 6. After the balance was attached to the center body, the tail

was attached to the same end of the center body. Assembly of the model was completed by attaching the nose to the other end of the center body and attaching the nozzle to the free end of the balance. Clearance between the balance and tail left the balance free to flex inside the model.

The model was installed in the test facility with a side mount which, as stated above, was an integral part of the model center section. The side mount attached to a 20-degree offset sting. Eight holes in the side mount allowed it to be attached to the 20-degree offset sting at any of seven different preset angles relative to the 20-degree offset sting. The use of these seven preset angles in combination with the 20-degree sweep of the tunnel pitch sector allowed the model to be positioned at any angle of attack between 60 and 120 degrees and between 130 and 185 degrees. The model could not be positioned at angles of attack between 120 and 130 degrees.

The tail was drilled and tapped to provide mounting locations for the tie down struts, aft separation rocket pod, and the skirt mounted heat shield. Details of the tie down struts and aft separation rocket pod are shown in Figures 8 and 9. Figure 10 shows the mounting locations of these protuberances on the model. Note that as in Figure 4 the model is shown at $\phi = 0$ degrees and the model was tested only at $\phi = 180$ degrees. The tail also had four pressure orifices, two drilled in the balance cavity and two drilled in the skirt. The pressure tubes were permanently attached to the external surface of the tail. Their locations are shown in Figure 11.

The model included six interchangeable nozzles (Figure 5). Only five of these were tested (see section on "Configurations Tested"). Three of the nozzles had integral heat shields. The other three lacked the heat shield and had continuous 14-degree conical exterior surfaces. The three nozzles within each of the two types differed from each other only in gimbal angle (δ_N). Each type (with and without nozzle mounted heat shield) had a 0-degree, a 2.5-degree, and a 5-degree gimballed nozzle. The nozzle gimbal center is shown in Figure 12. In all cases, the 2.5- and 5-degree nozzles (both with and without heat shield) were mounted so that they canted in the vertical (pitch) plane and toward that side of the model which was leeward when the model was at an angle of attack of 90 degrees.

Details of the internal and external contours of the nozzles as well as details for the nozzle adapter and tail are shown in Figure 12. Figure 13 is the same cross sectional view but with the skirt-mounted heat shield in place. Figure 14 repeats the view but this time with a nozzle-mounted heat shield. Figures 12 and 13 show nozzles at $\delta_N = 0$ degrees; Figure 14 shows a nozzle at $\delta_N = 5^\circ$.

The wind tunnel conditions were used to calculate the Mach number, the dynamic pressure, and the Reynolds number. The angle of the model support mechanism and the pre-set model attitude were used to calculate the model angle of attack. The two balance cavity pressures, the two skirt interior pressures, and the force and moment data were reduced to coefficient form.

In addition, a nozzle/balance deflection angle (γ) was calculated using the nozzle normal force and pitching moment in conjunction with a balance deflection calibration obtained before the start of the test. The deflection angle is positive in the same direction as the nozzle gimbal angle (δ_N). The deflection angle was caused by deflection of the balance under aerodynamic loads. This deflection caused a shift in the angular orientation of the nozzles as shown in Figure 3. Since nozzle side force loads were low, no deflection angle was calculated for the lateral ($X_m - Y_m$) plane.

The coefficients C_{N_m} , C_{m_m} , C_{Y_m} , C_{n_m} , C_{ℓ_m} , and C_{A_m} (defined in the nomenclature) are non-dimensional coefficients that represent the force and moments that acted on the model nozzle during the test. Positive directions of these coefficients and the location of the moment reference point are shown in Figures 2 and 3. Coefficients were calculated in the missile axis system, a non-rolling body axis system that is frequently used in wind tunnel tests and studies of missile flight dynamics. The missile axis system never rotates about a missile or model longitudinal axis; therefore it is identical with a body axis system at zero roll angle. Figure 1 illustrates both the missile and body axes.

The reference dimensions are:

	FULL SCALE	MODEL SCALE
Reference Area, S_{ref} (cross sectional area of nozzle interior at exit plane)	115.69 ft ²	0.500 in. ²

FULL SCALE

MODEL SCALE

Reference length, l_{ref}

(inside diameter of nozzle

exit)

145.64 in.

0.798 in.

The moment reference point (MRP) is at the center of rotation, or gimbal center of the nozzle (0.626 inch forward from the nozzle exit plane).

CONFIGURATIONS INVESTIGATED

Three configurations were used during this test. They differed only in the type of or lack of heat shield. These configurations were:

- SRB without heat shield
- SRB - heat shield on skirt
- SRB - heat shield on nozzle

The "SRB without heat shield" had no form of heat shield.

The "SRB - heat shield on skirt" had a circular shield (Figure 13) attached to the aft edge of the engine skirt by eight screws. This configuration used the same nozzles as the "SRB without heat shield."

The "SRB - heat shield on nozzle" used nozzles fabricated with an integral heat shield on the external surface of the nozzle, Figure 14.

All three configurations included a nose, cylindrical body, tail with engine skirt, nozzle (with or without heat shield), and five engine skirt protuberances. These protuberances were a separation rocket pod (Figure 9) and a set of four launch pad tie down struts (Figure 8). The model was at 180 degrees roll (ϕ) throughout the test. This placed the separation rocket at 21 degrees 45 minutes counterclockwise from the windward stagnation line of the model when viewed from the tail (Figure 10). The tie down struts were placed at 30 degrees either side of the vertical plane on both the windward and leeward sides (Figure 10). Both the separation rocket pod and the tie down struts aligned with the model center line. One of the tie down struts was shortened so that it could fit in its position behind the rocket pod.

TEST PROGRAM

Table II lists the details of the test program. These are:

Configurations

Gimbal Angles (δ_N)

Angle of attack (α_t) ranges

Mach numbers

Roll angle (ϕ)

For each combination of configuration and gimbal angle, the model was tested over an angle of attack range of 60 to 185 degrees at Mach numbers of 1.96, 2.74 and 3.48. Table I lists the tunnel conditions for each of the three Mach numbers. There was only one roll angle ($\phi = 180$ degrees).

TEST FACILITY DESCRIPTION

The Marshall Space Flight Center 14 x 14 inch Trisonic Wind Tunnel is an intermittent blowdown tunnel which operates by high pressure air flowing from storage to either vacuum or atmospheric conditions. A Mach number range from .2 to 5.00 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 0.20 through 2.50, and the supersonic section permits testing at Mach 2.74 through 5.00. Mach numbers between .2 and .9 are obtained by using a controllable diffuser. The range from .95 to 1.3 is achieved through the use of plenum suction and perforated walls. Mach numbers of 1.46, 1.96 and 2.50 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.50 a set of fixed contour nozzle blocks are tilted and translated automatically to produce any desired Mach number in .25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately -40 degrees Fahrenheit dew point and 500 pounds per square inch absolute. The compressor is a three-stage reciprocating unit driven by a 1500 horsepower motor.

The tunnel flow is established and controlled with a servo-actuated gate valve. The controlled air flows through the valve diffuser into the stilling chamber and heat exchanger where the air temperature can be controlled from ambient to approximately 200 degrees Fahrenheit. The air then passes through the test section which contains the nozzle blocks and test region.

Downstream of the test section is a hydraulically controlled pitch sector that provides a total angle of attack range of 20 degrees (± 10 degrees). Sting offsets are available for obtaining various maximum angles of attack up to 90 degrees.

The variable diffuser section has movable floor and ceiling panels which are the primary means of controlling the subsonic Mach numbers and permit more efficient running at supersonic Mach numbers. The sector assembly and diffuser telescope to allow easy access to the model and test section.

Tunnel flow is exhausted through an acoustically damped tower to atmosphere or into the vacuum field of 42,000 cubic feet. The vacuum tanks are evacuated by vacuum pumps driven by electric motors rated at a total of 500 horsepower.

Data are recorded by a solid-state digital data acquisition system. The digital data are transferred to punched cards during the run to be reduced later by a computer to proper coefficient form.

INSTRUMENTATION AND DATA REDUCTION

The parameters that were measured and recorded during the test were:

- o Wind tunnel conditions (P_∞ , P_t , T_t)
- o Inclination of model support mechanism (Sector Angle)
- o Pre-set model attitude (α')
- o Two balance cavity pressures and two skirt interior pressures
- o Six component force and moment data for the nozzle

The wind tunnel conditions and the angle of the model support mechanism were measured with the normal facility instrumentation.

After each support hardware configuration change, the pre-set model attitude (α') was measured with an inclinometer.

The two balance cavity pressures and the two skirt interior pressures were measured by 50 psia transducers mounted outside the tunnel. Pressure tubing was routed along the external surface of the model, down the downstream side of the side mount, along the sting and out the floor of the tunnel to transducers.

The pressure data was identified as follows (see Figure 11):

$C_{p_{c1}}$	Balance cavity, windward side
$C_{p_{c2}}$	Balance cavity, leeward side
$C_{p_{c3}}$	Skirt interior, windward side
$C_{p_{c4}}$	Skirt interior, leeward side

The six-component force and moment data were measured using MSFC balance number 241. The balance was mounted such that the top of the

balance was downstream when the side mount was rotated so the model was at 90 degrees angle of attack. The balance capacities are presented in Table I.

Table I

[illegible]

Table II.A.

TEST : MSFC TWT-611(SA3OF)							DATE : MARCH 1975															
DATA SET RUN NUMBER COLLATION SUMMARY																						
DATA SET IDENTIFIER		CONFIGURATION		SCHED.	PARAMETERS/VALUES		NO. OF RUNS		MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)													
		α	β	ϕ	$\delta\alpha$				1.96	2.74	3.48											
RITO 01	SRB WITHOUT	H		180°	0°		3	39	50	49												
02		I					T	32	63	64												
03		J						25	78	77/1												
04		K						18/1	91	93/1												
05		L						11	106	105/1												
06		M			V			1	119	120												
07		H			5°			40	47	48												
08		I						31	66	65												
09		J						26	75	76												
10		K						17	94	93												
11		L						12	103	104												
Y 12		M		V	V			2	122	121												
RITO 13	SRB - HEAT SHIELD ON SKIRT	H		180°	0°			38	51	52												
14		I						33	62	61												
15		J						24/1	79	80												
Y 16		K		V	V		V	19	90	89												
CNM	CLMM	CA	CYM	CYNM	GBL	COEFFICIENTS																
$a_t(H) = 60-80^\circ$						$a_t(J) = 100-120^\circ$						$a_t(L) = 150-170^\circ$										
$a_t(I) = 80-100^\circ$						$a_t(K) = 130-150^\circ$						$a_t(M) = 165-185^\circ$										

Table II. A. (Continued)

TEST : MSFC TWT-611 (SA30F)

DATE : MARCH 1975

DATA SET / RUN NUMBER COLLATION SUMMARY

TEST RUN NUMBERS

DATA SET IDENTIFIER	CONFIGURATION	SCHD. PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)			
		α	β	δ		1.96	2.74	3.48	
R1J017	SRB - HEAT SHIELD	L		180°	3	10	107	109	
	ON SKIRT	M		0°	5	118	117		
		H		25°	37	54	53		
		I			34	59	60		
		J			23 1/2	82	81		
		K			20	87	88		
		L			9	110	109		
		M		0°	6	115	116		
		H		5°	36	55	56		
		I			35	58	57		
R1J031	SRB - HEAT SHIELD	J			22 1/3	83	84		
	ON NOZZLE	K			21	86	85		
		L			8	111	112		
		M		0°	7	114	113		
		H		180°	42	43	44		
		I		0°	29	70	69		

7131925313743495561677379

7131925313743495561677379

CNMCLMMCACYMCYMMFBL

COEFFICIENTS

$\alpha_t(H) = 60 - 80^\circ$
 $\alpha_t(I) = 80 - 100^\circ$

$\alpha_t(L) = 150 - 170^\circ$
 $\alpha_t(M) = 165 - 185^\circ$

Table II. A. (Continued)

[illegible]

Table II. A. (Continued)

TEST : MSFC TWT-611 (SA30F)										DATE : MARCH 1975																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
DATA SET / RUN NUMBER COLLATION SUMMARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DATA SET IDENTIFIER		CONFIGURATION		SCMD. PARAMETERS/VALUES		NO. OF RUNS		MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
				α, β		δ, γ																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
SRB WITHOUT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
R1J1 01	HEAT SHIELD	H		180°		0°		3		1.96		2.74		3.48																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

Table II.A.(Continued)

TEST : MSFC TWT-611 (SA30F)										DATE : MARCH 1975									
DATA SET / RUN NUMBER COLLATION SUMMARY																			
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES		NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)												
		α	β	ϕ	δN		196	274	348										
TEST RUN NUMBERS																			
R1J117	SRB-HEAT SHIELD	L		180°	0°	1				10	107	108							
18		M		T	Y	T				5	118	117							
19		H			2.5°					37	54	53							
20		I								34	59	60							
21		J								23 1/2	82	81							
22		K								20	87	88							
23		L								9	110	109							
24		M			Y					6	115	116							
25		H			5°					36	55	56							
26		I			T					35	58	57							
27		J								22 1/3	83	84							
28		K								21	86	85							
29		L								8	111	112							
Y 30		M			Y					7	114	113							
	SRB-HEAT SHIELD																		
R1J131	on Nozzle	H		180°	0°					42	43	44							
Y 32		I		T	Y	Y				29	70	69							
COEFFICIENTS																			
CPC1, CPC2, CPC3, CPC3, CPC4, PCMA																			
q_c OR β SCHEDULES																			
$q_c(H) = 60-80^\circ$ $q_c(J) = 100-120^\circ$ $q_c(L) = 150-170^\circ$																			
$q_c(I) = 80-100^\circ$ $q_c(K) = 130-150^\circ$ $q_c(M) = 165-185^\circ$																			
MSFC Form 163-3 (Rev. May 1973)																			

Table II. A. (Concluded)

[illegible]

TABLE II B.

COMBINED DATA SET IDENTIFIERS

NOTE: All numbers are preceded by R1J

<u>COMBINED DATA SET</u>	<u>DATA SETS INCLUDED</u>
201	001, 002, 003
202	004, 005, 006
203	007, 008, 009
204	010, 011, 012
205	013, 014, 015
206	016, 017, 018
207	019, 020, 021
208	022, 023, 024
209	025, 026, 027
210	028, 029, 030
211	031, 032, 033
212	034, 035, 036
213	037, 038, 039
214	040, 041, 042

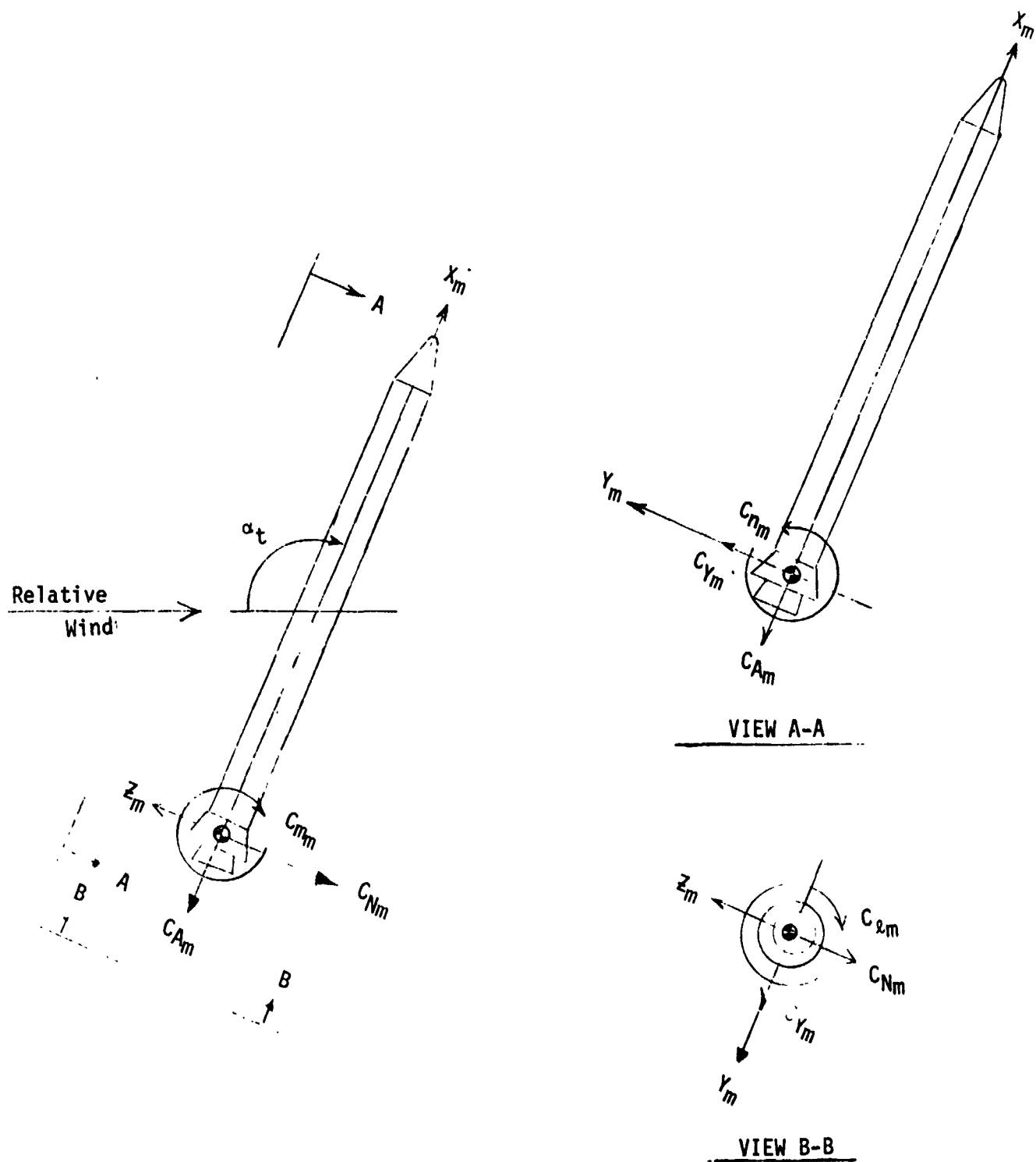


Figure 2. AXIS SYSTEM (ASSUMING NO BALANCE DEFLECTIONS)

NORTHROP SERVICES, INC.

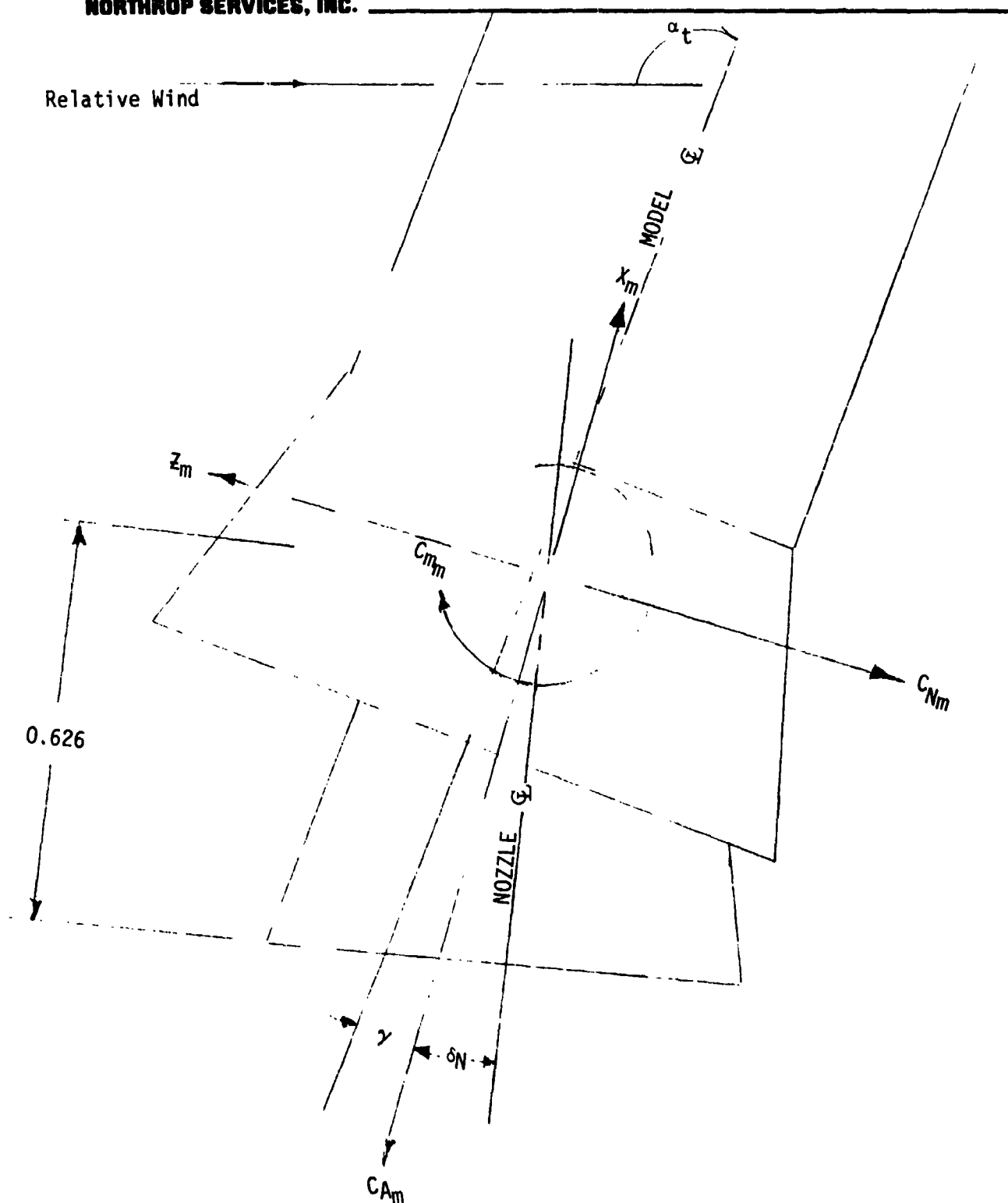


Figure 3. SKETCH SHOWING NOZZLE/BALANCE DEFLECTION ANGLES, AXIS SYSTEM, AND POSITIVE DIRECTION OF C_{Nm} , C_{Am} , AND C_m

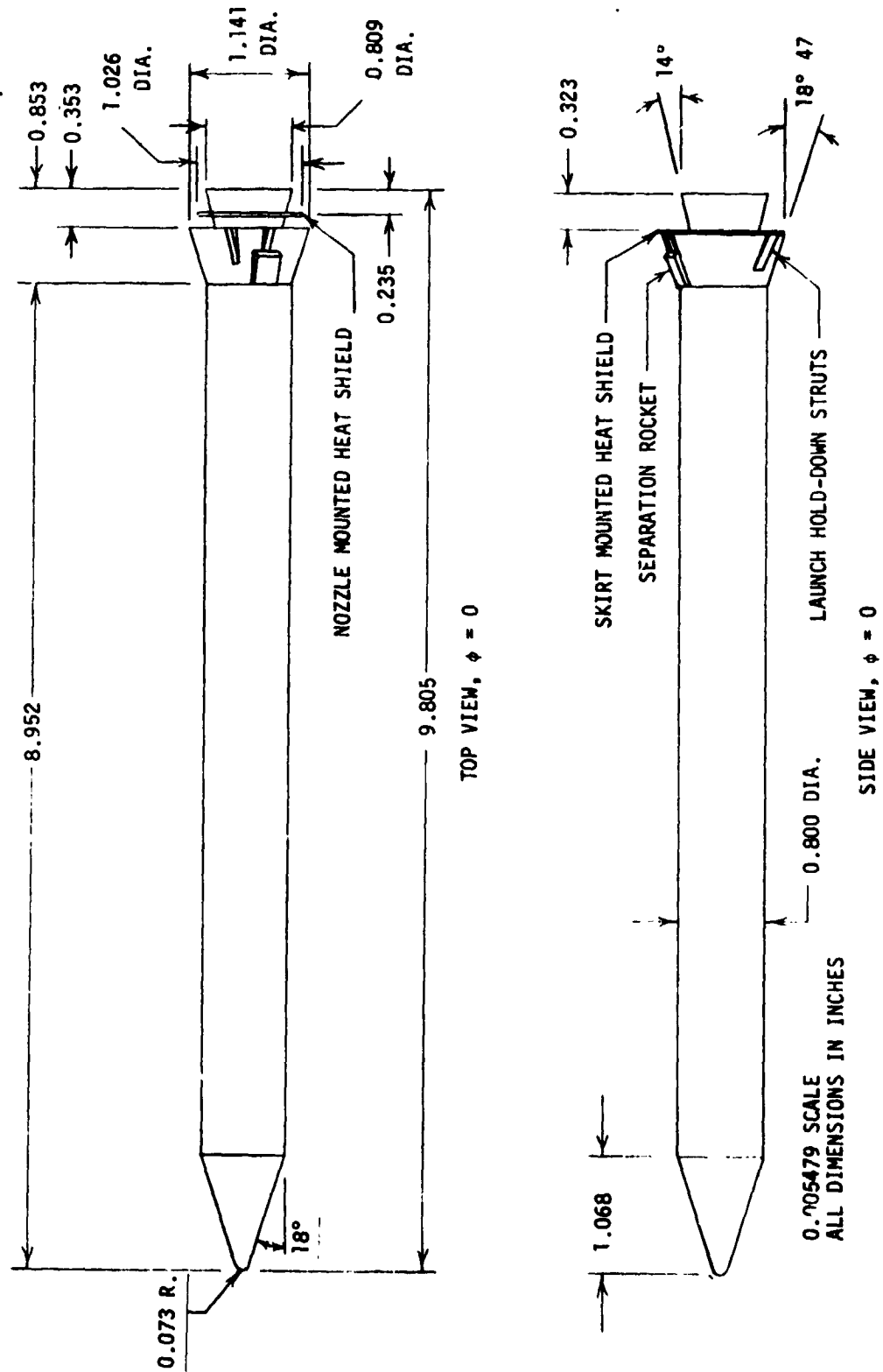


Figure 4. GENERAL ARRANGEMENT OF SRB MODEL

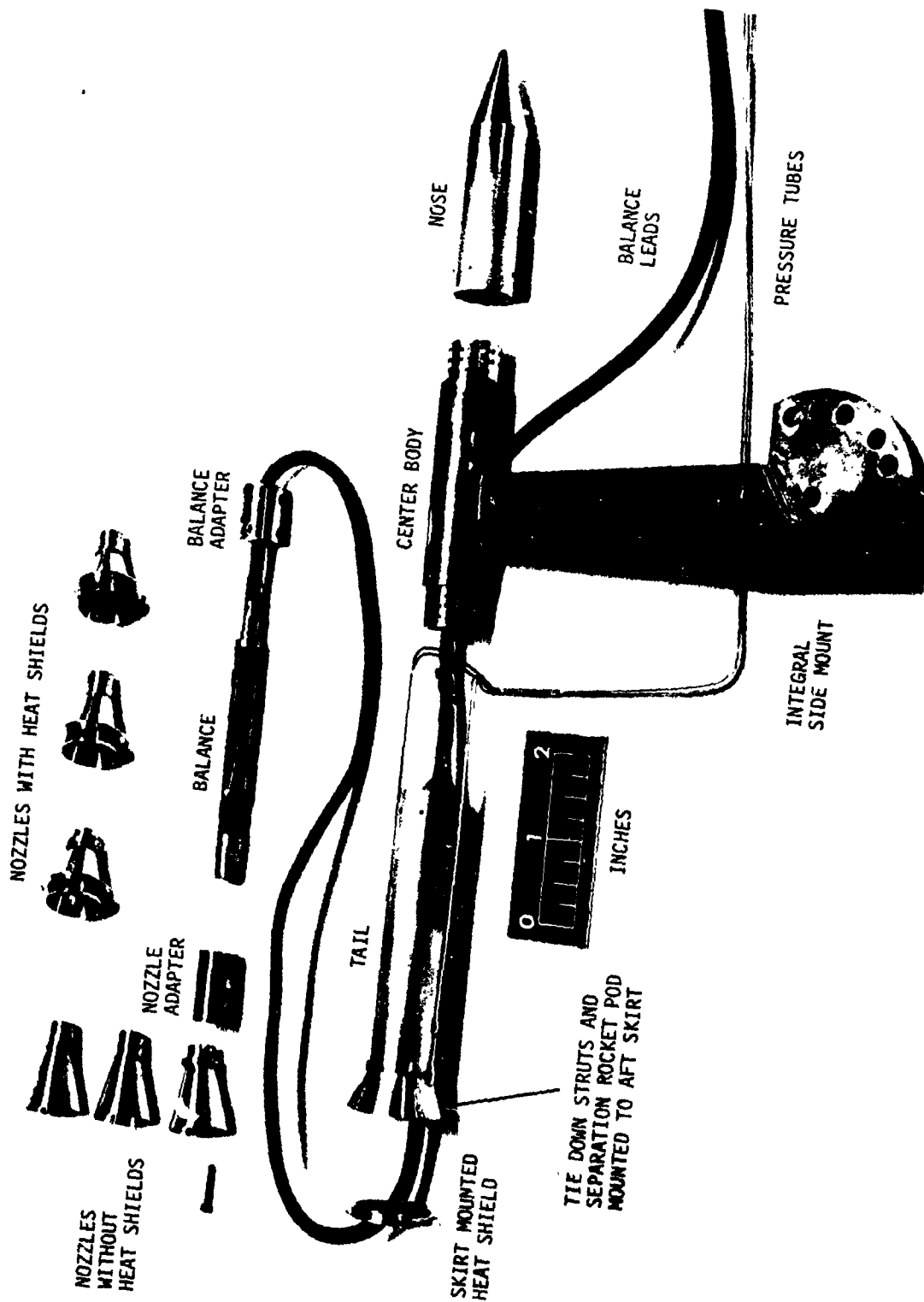


FIGURE 5. MODEL PAF'S

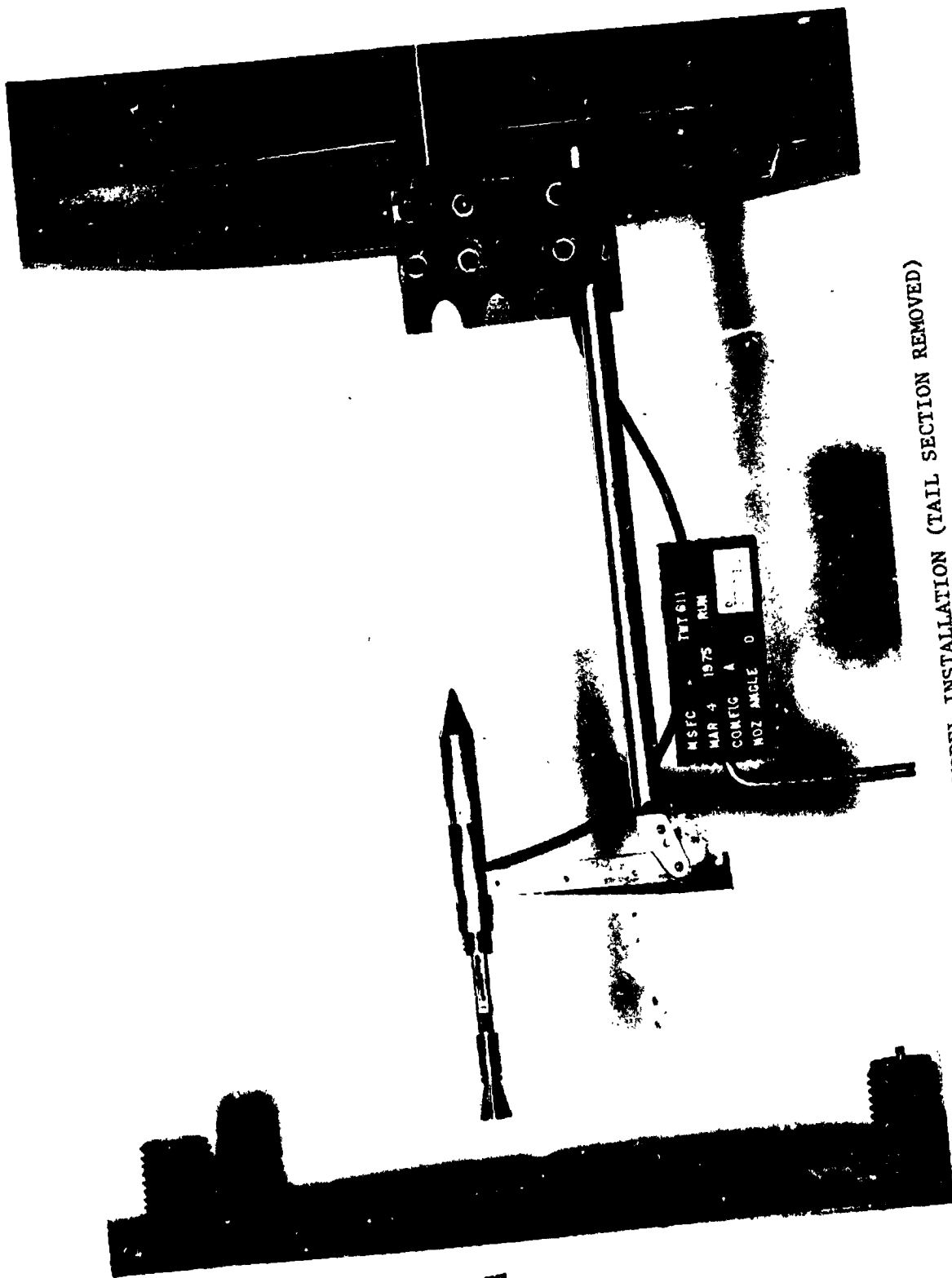


FIGURE 6. MODEL INSTALLATION (TAIL SECTION REMOVED)

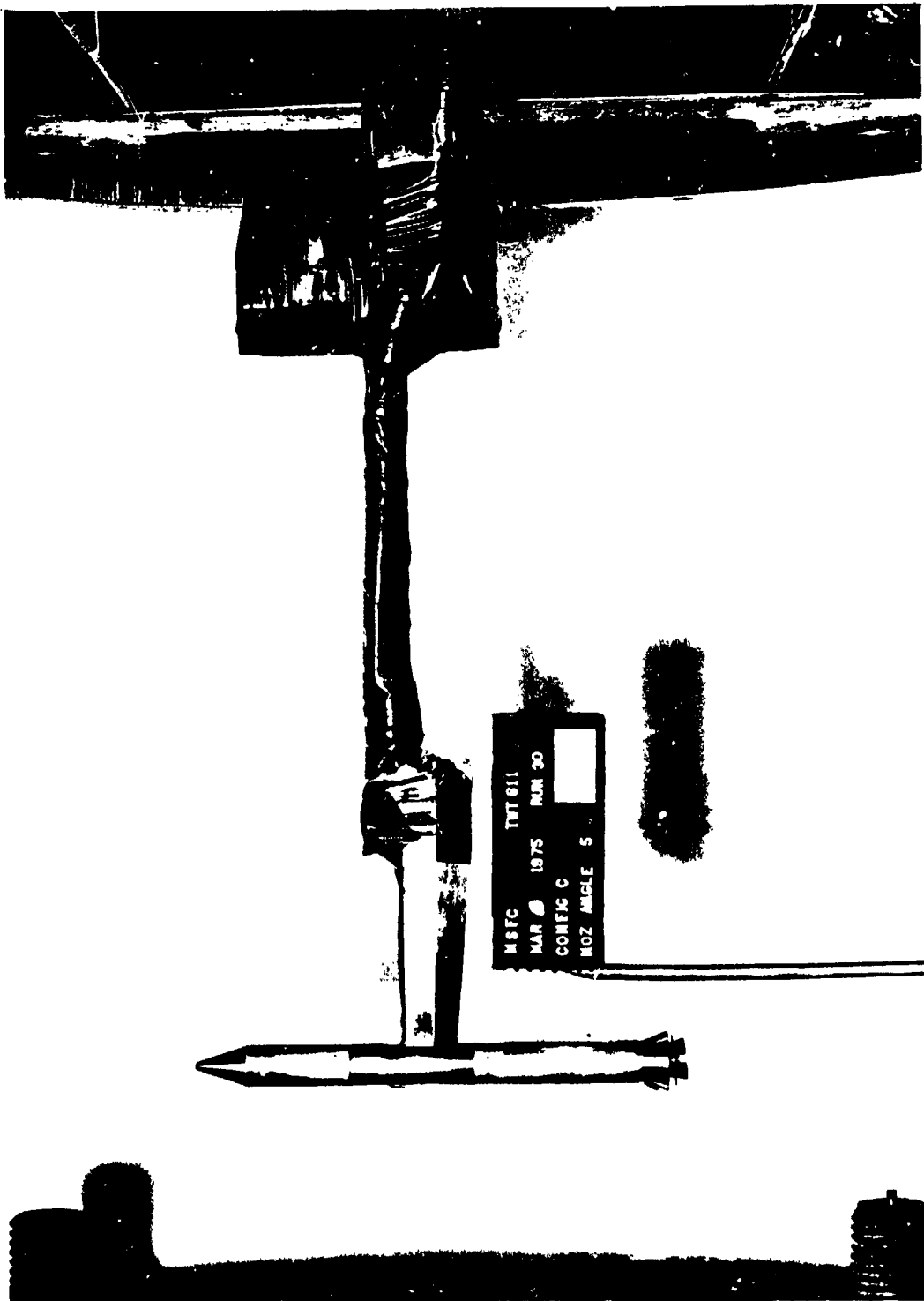
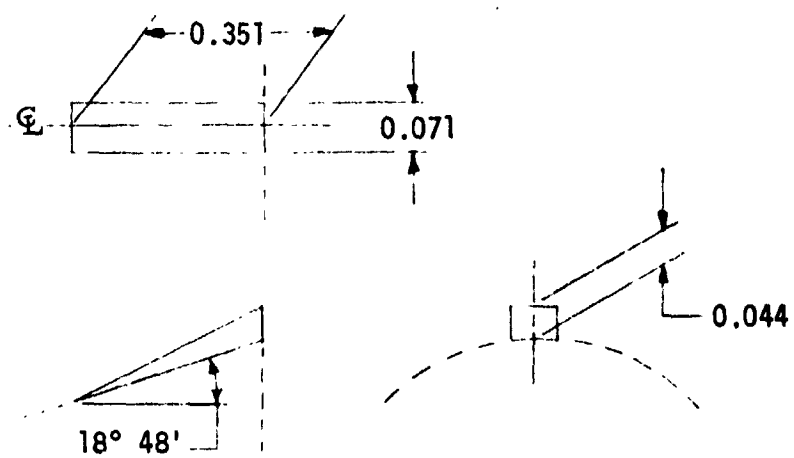


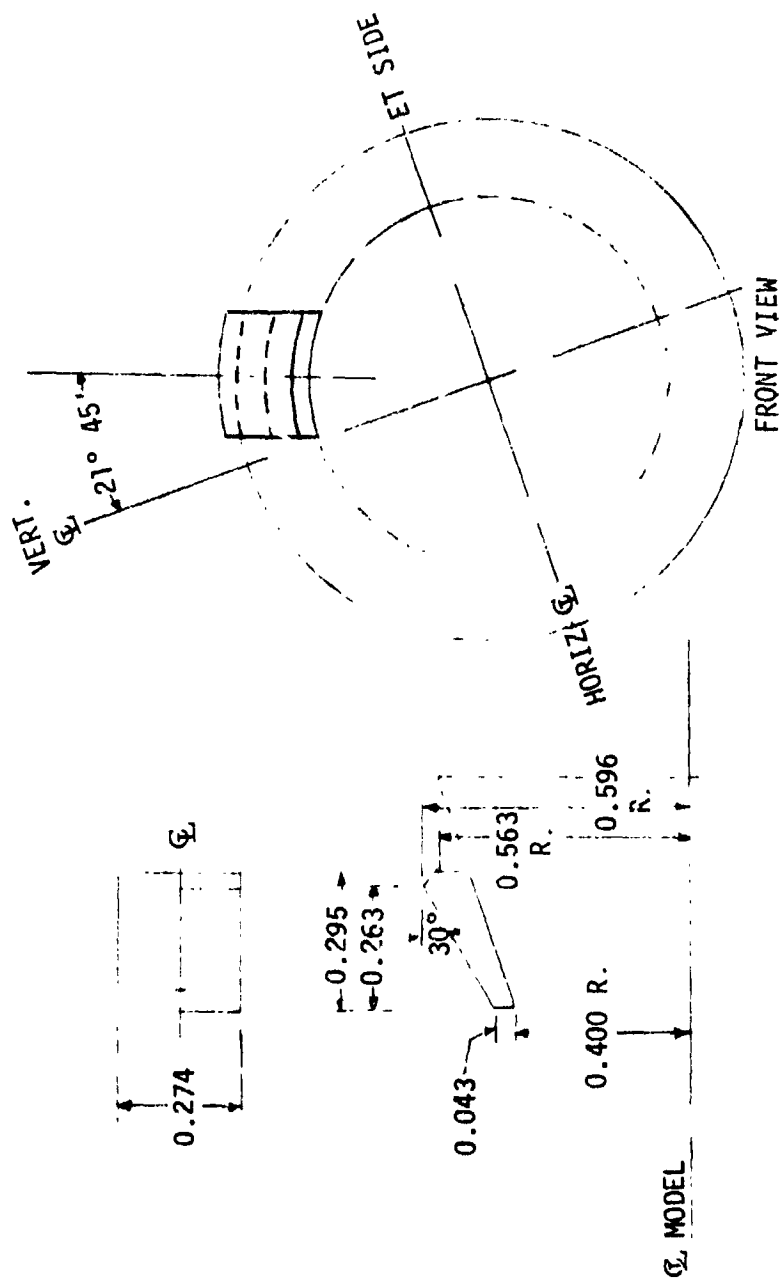
FIGURE 7. EXAMPLE TEST SETUP

NORTHROP SERVICES, INC.



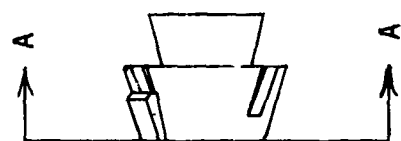
ALL DIMENSIONS IN INCHES

Figure 8. TIE DOWN STRUTS

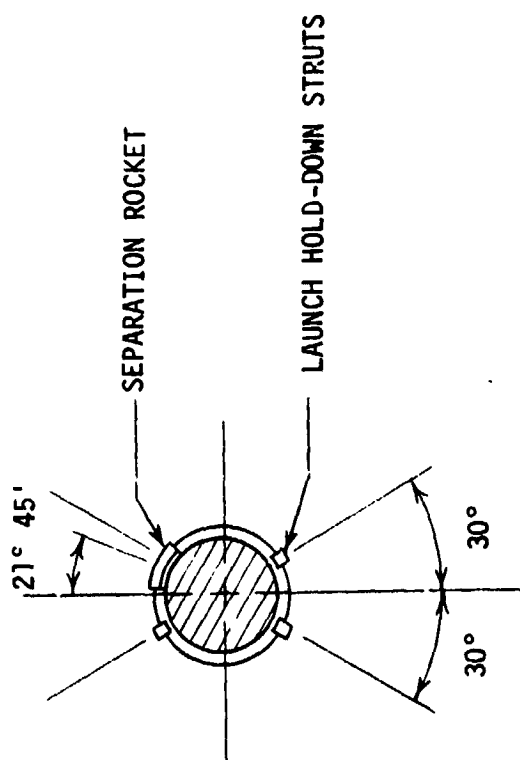


ALL DIMENSIONS IN INCHES

Figure 9. SEPARATION ROCKET PQDS



SIDE VIEW, $\phi = 0$



SECTION A-A

Figure 10. PROTUBERANCE CIRCUMFERENTIAL LOCATIONS

NORTHROP SERVICES, INC.

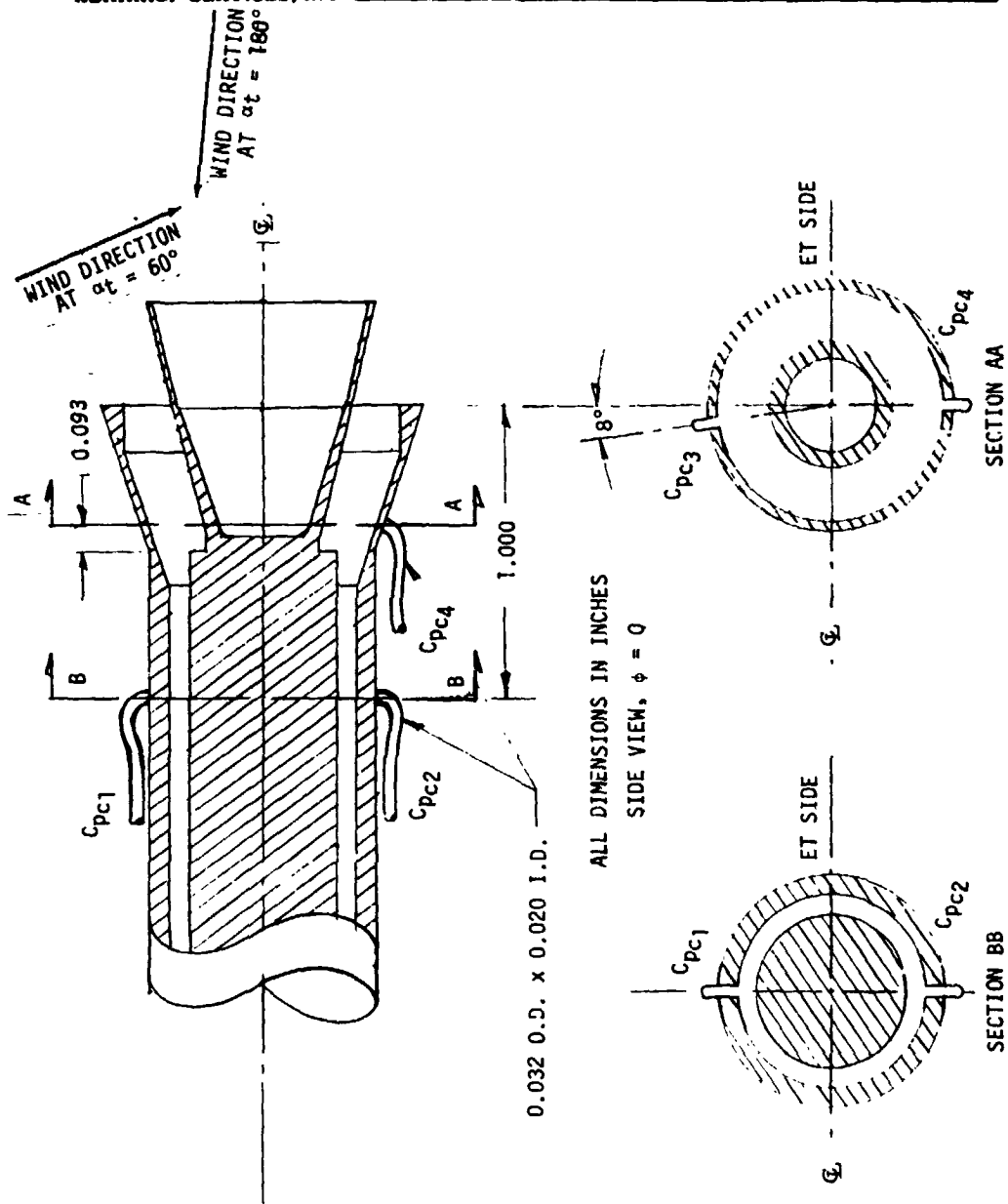


Figure 11. PRESSURE ORIFICES

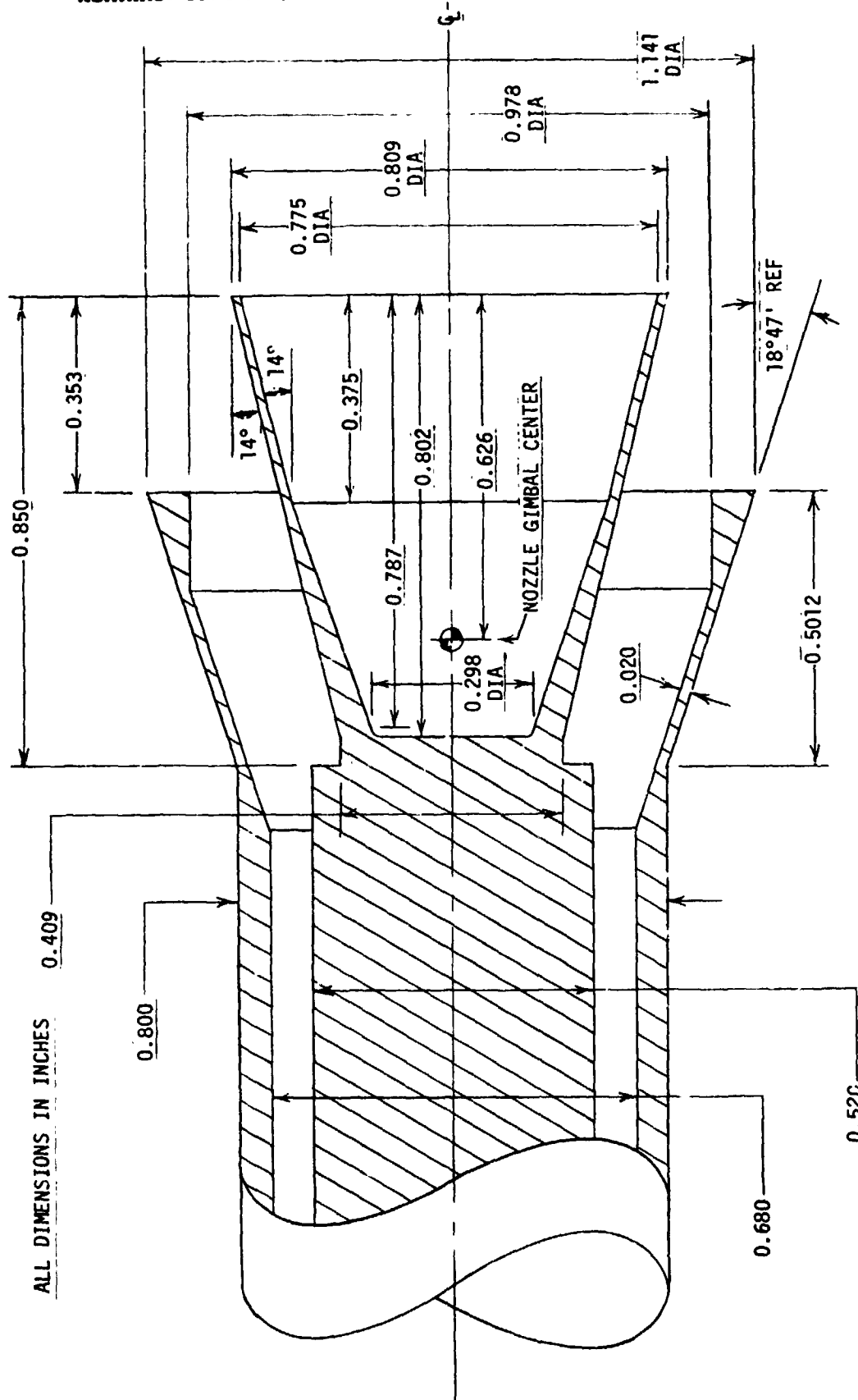


Figure 12. CROSS SECTION OF ENGINE SKIRT/NOZZLE (NO HEAT SHIELD)

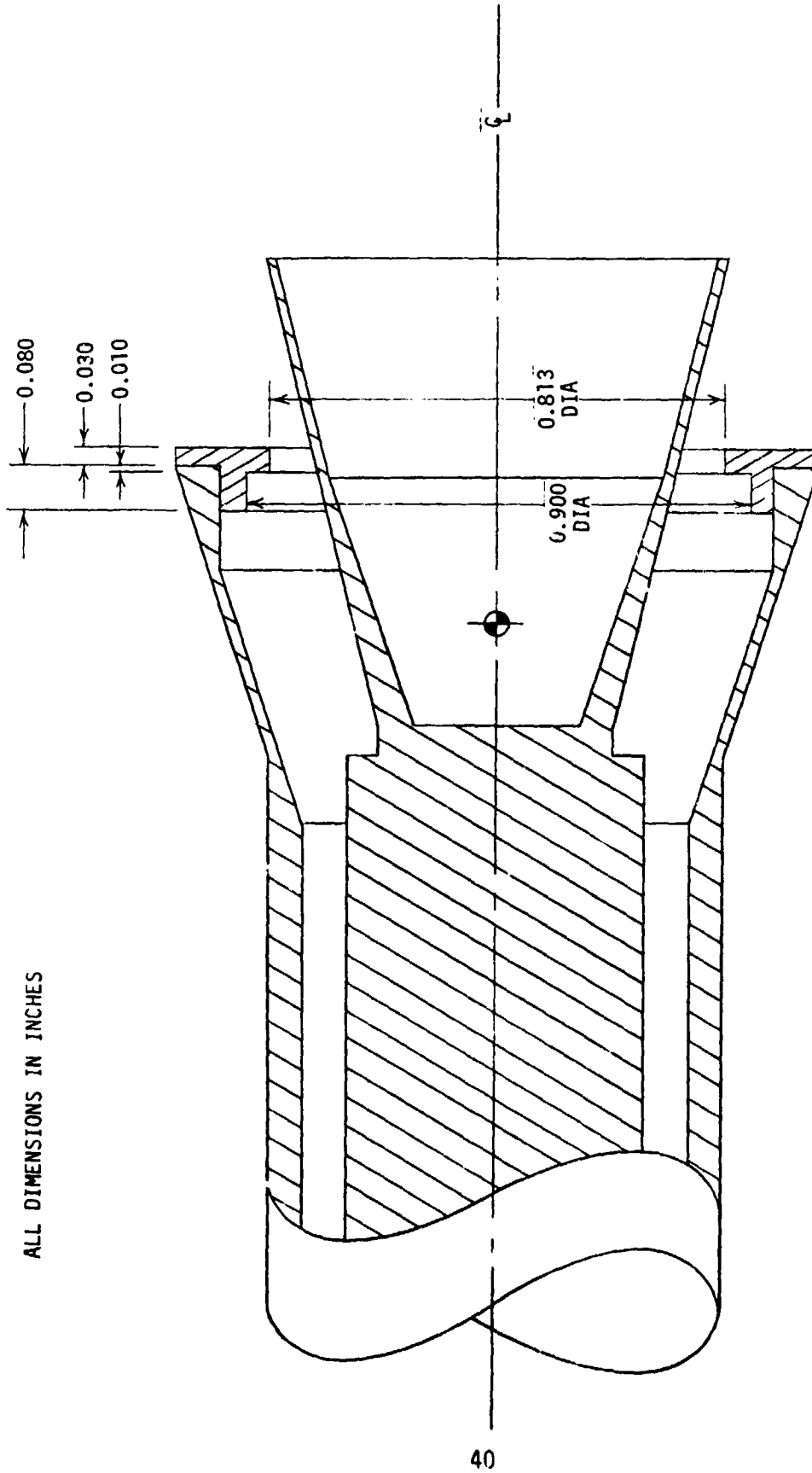


Figure 13. CROSS SECTION OF ENGINE SKIRT/NOZZLE (MODEL WITH SKIRT-MOUNTED HEAT SHIELD)

ALL DIMENSIONS IN INCHES

NORTHROP SERVICES, INC.

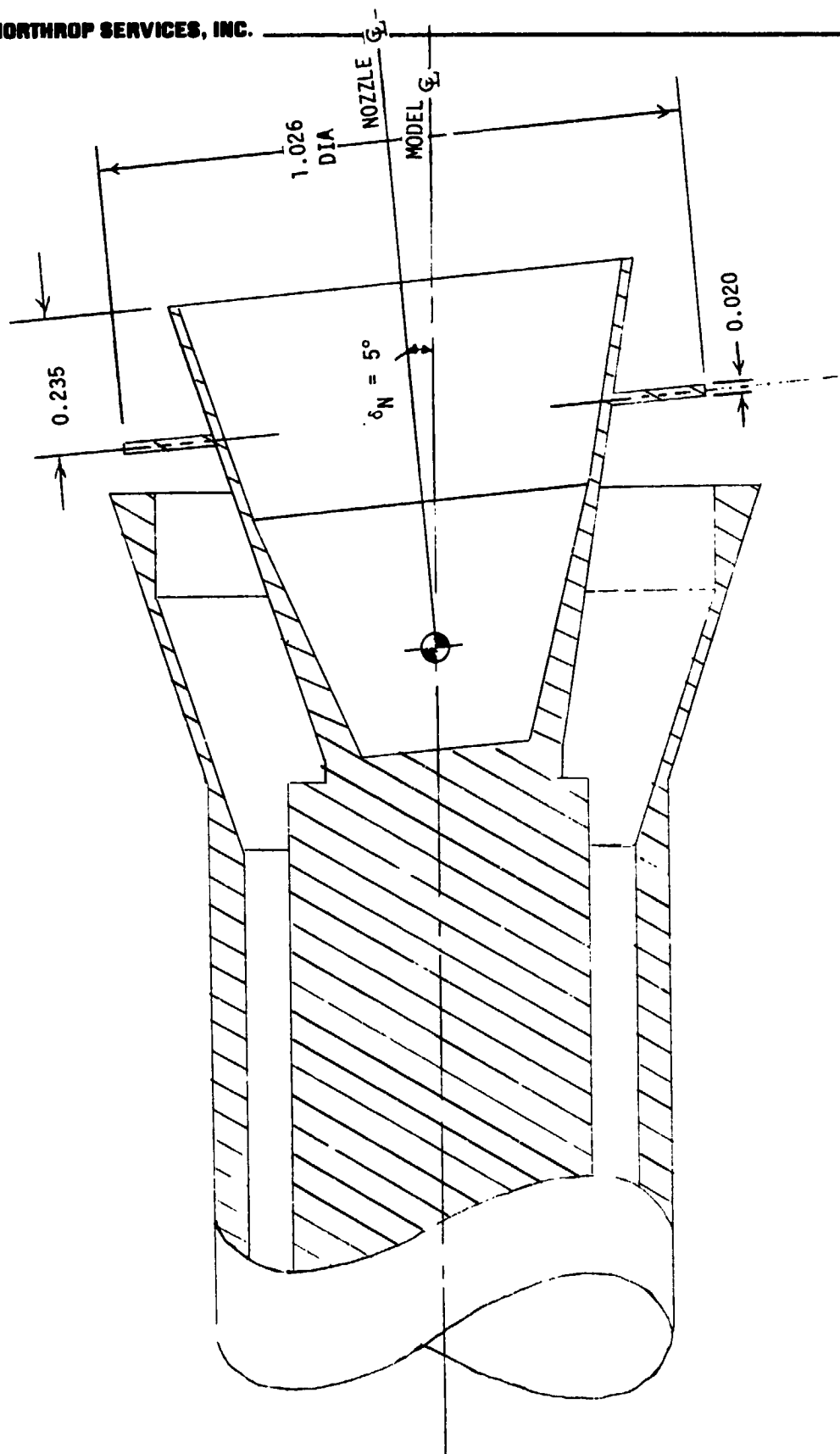
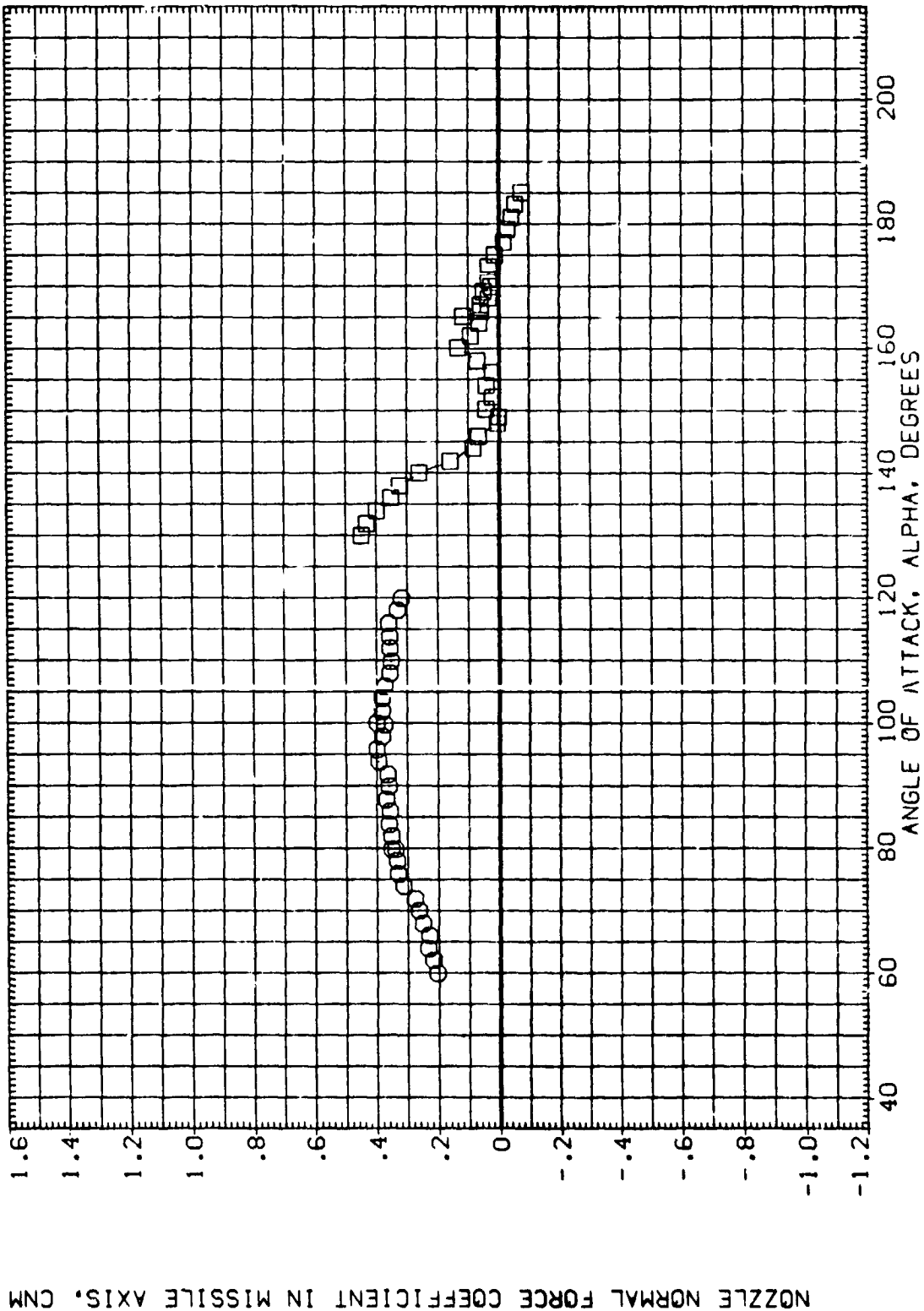


Figure 14. CROSS SECTION OF ENGINE SKIRT/NOZZLE (MODEL WITH NOZZLE-MOUNTED HEAT SHIELD $\delta_N = 5^\circ$)

DATA FIGURES

PRECEDING PAGE BLANK NOT FILMED

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ201)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	SREF 115.6900 SQ.FT.
(RIJ202)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. KN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(A)MACH = 1.96

PAGE 1

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RIJ201) MSFC TW 611 (SA30F) SRB WITHOUT HEAT SHIELD

(RIJ202) MSFC TW 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI GIMBAL

180.000 .000

180.000 .000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

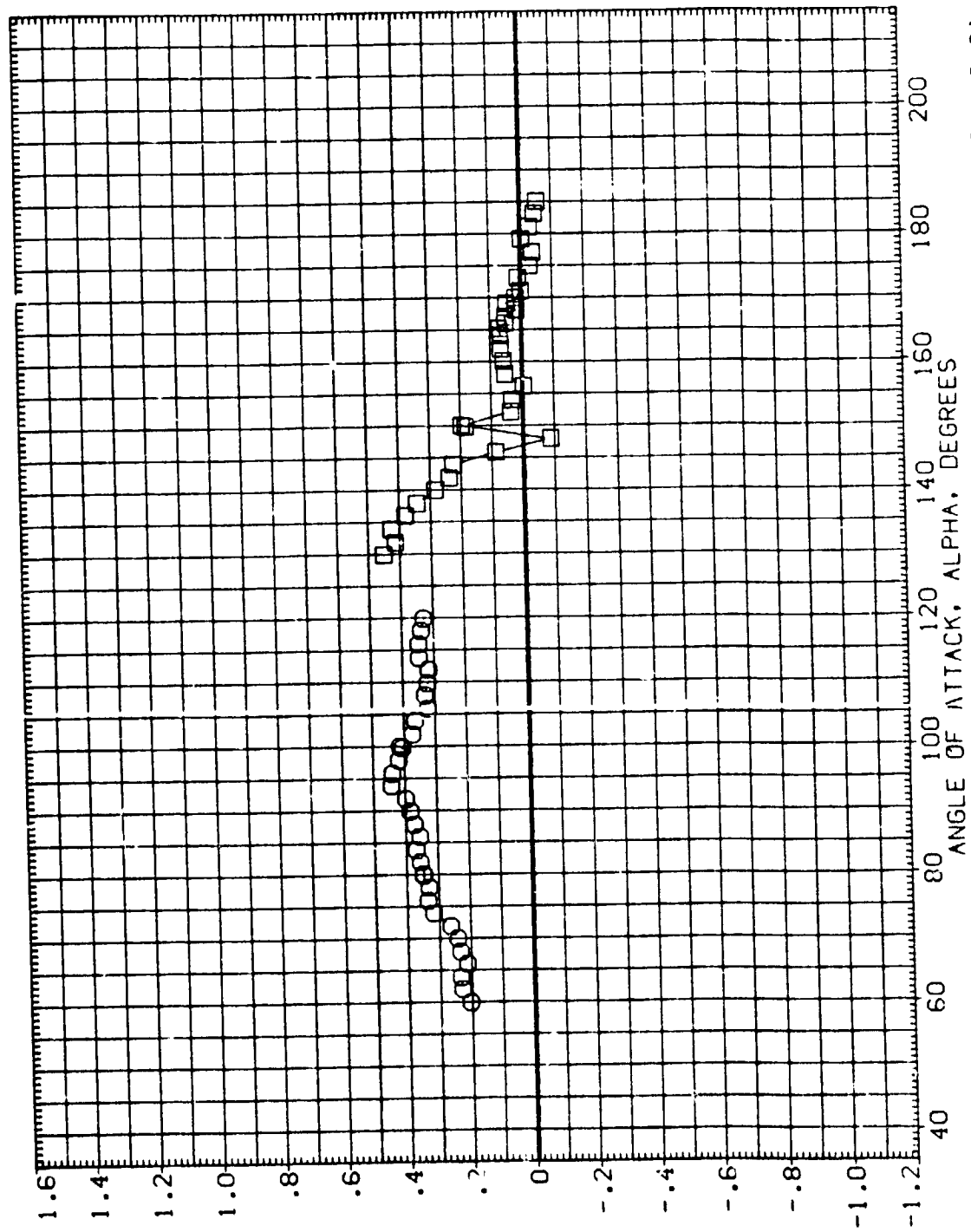
BREF 145.6400 IN.

XMRP 114.1950 IN. XN

YMRP .0000 IN. YN

ZMRP .0000 IN. ZN

SCALE .0055



NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(B)MACH = 2.74

PAGE 2

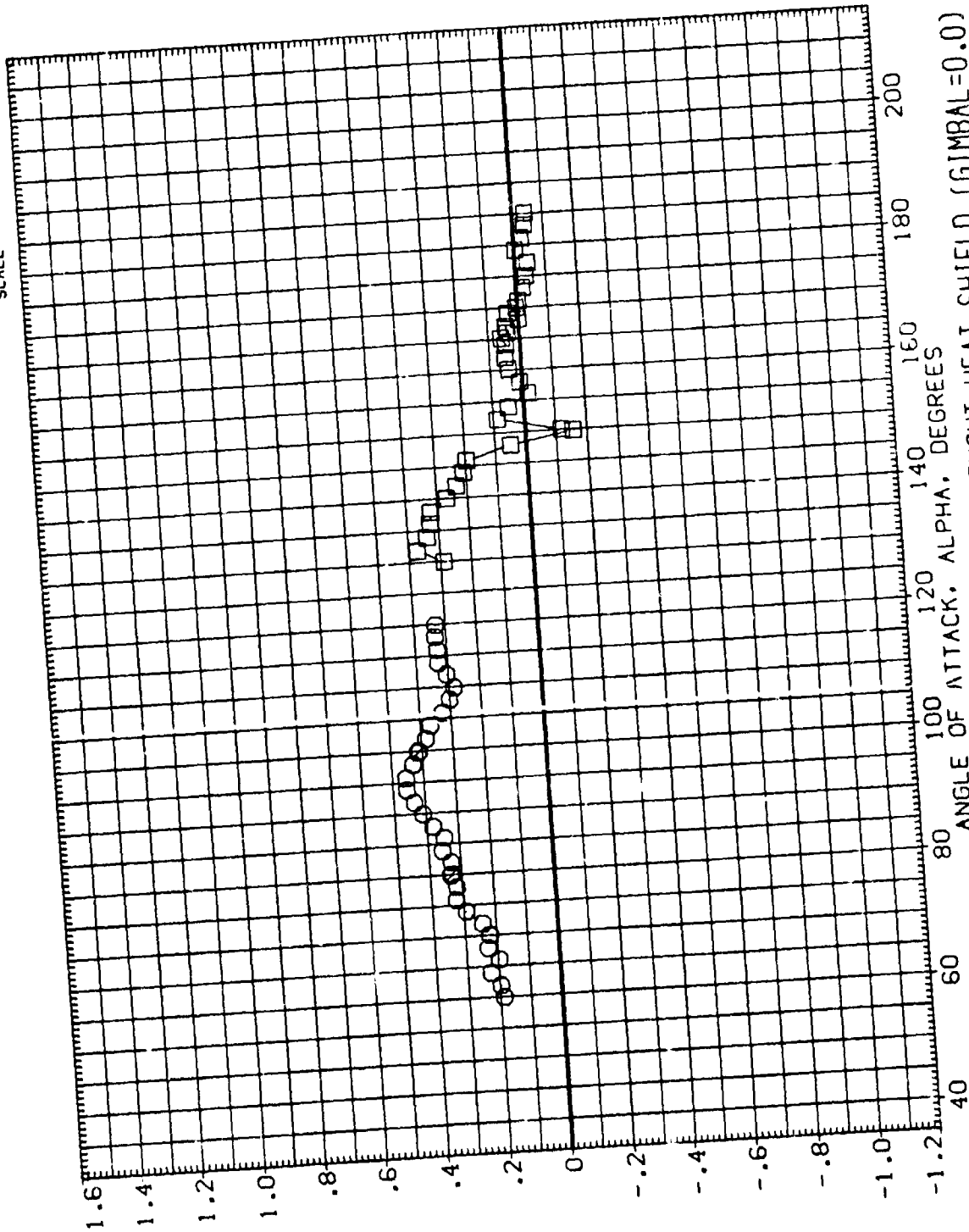
DATA SET SYMBOL
(R1J201)
(R1J202)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

REFERENCE INFORMATION
SREF 115.6900 50.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XN 114.1950 IN.
YN 114.1950 IN.
ZNR 114.1950 IN.
SCALE .0055

NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

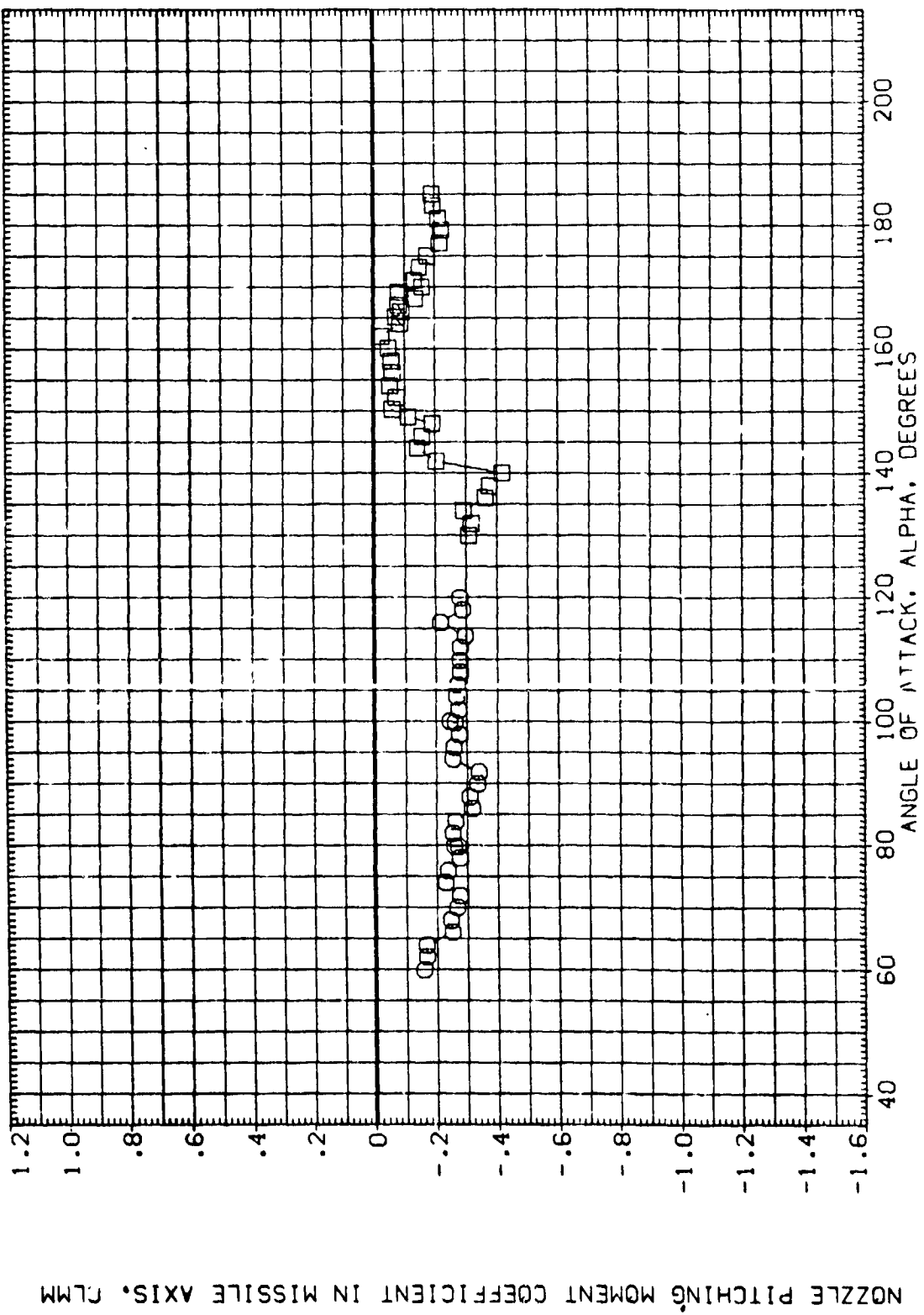
(C)MACH = 3.48

DATA SET SYMBOL (R1J201)
 (R1J202)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
 MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
 180.000
 180.000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



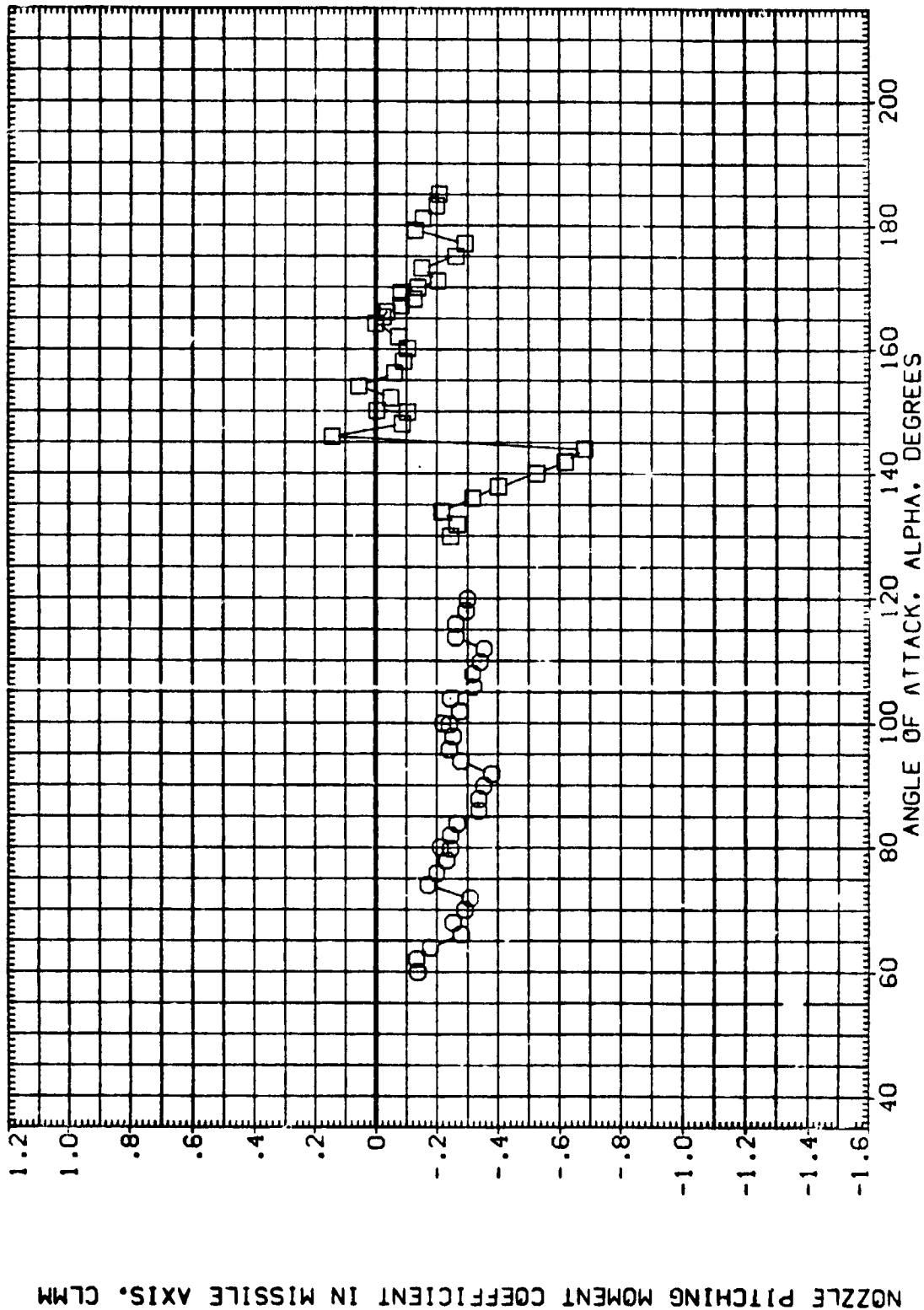
NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(A)MACH = 1.96

PAGE 4

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ201)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	SREF 115.6900 SQ.FT.
(RIJ202)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055

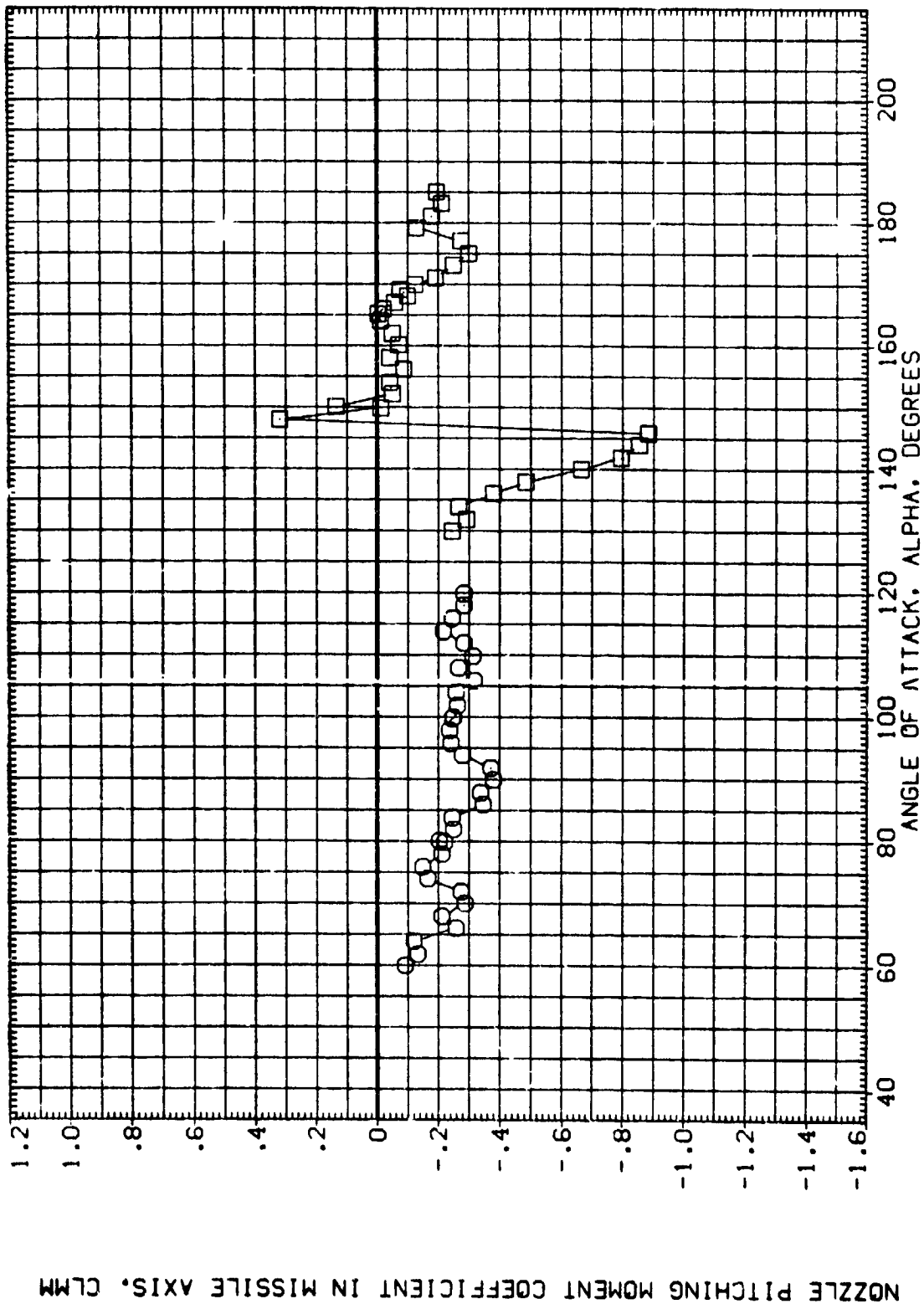


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(B)MACH = 2.74

PAGE 5

DATA SET SYMBOL (R1J201) (R1J202) CONFIGURATION DESCRIPTION MSFC TW 611 (SA30F) SRB WITHOUT HEAT SHIELD MSFC TW 611 (SA30F) SRB WITHOUT HEAT SHIELD PHI 180.000 180.000 GIMBAL .000 .000 REFERENCE INFORMATION SREF 115.6900 SQ.FT. LREF 145.6400 IN. BREF 145.6400 IN. XN 114.1950 IN. YN .0000 IN. ZN .0000 IN. SCALE .0055

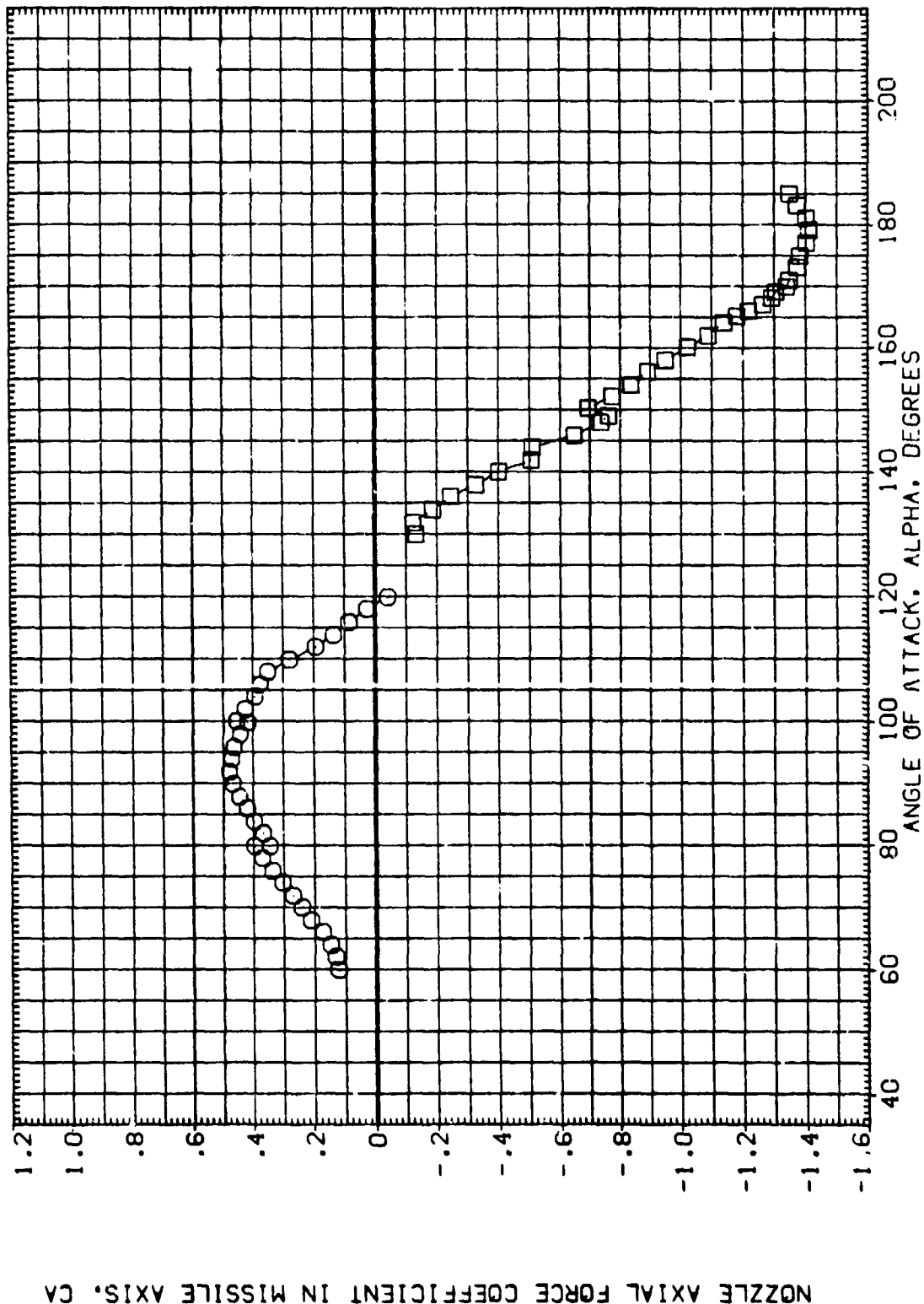


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(CJMACH = 3.48

PAGE 6

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J201)	MSFC TW 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	SREF 115.6900 SQ.FT.
(R1J202)	MSFC TW 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

CA)MACH : 1.96

PAGE

7

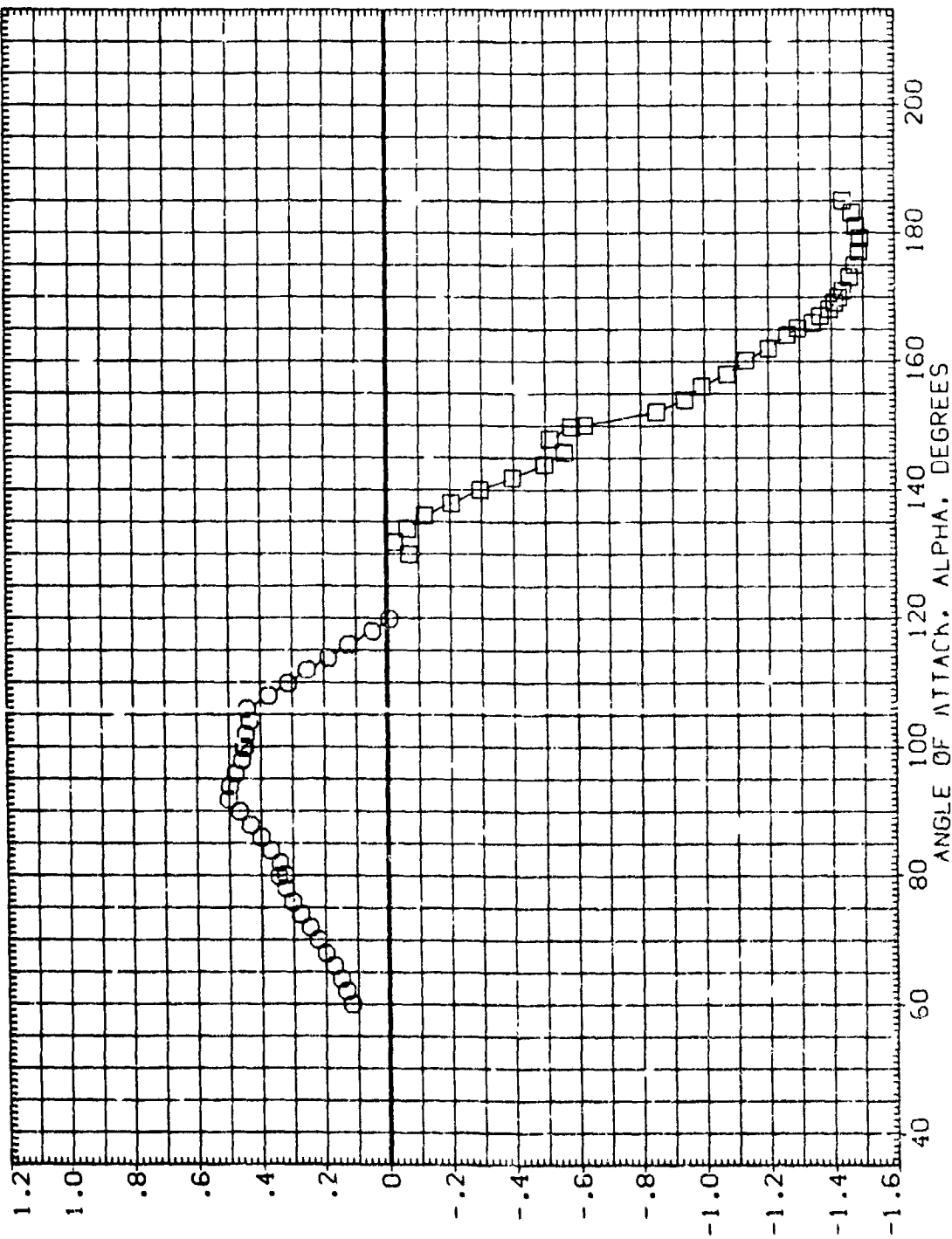
DATA SET SYMBOL (R1J201) (R1J202)

CONFIGURATION DESCRIPTION
MSEC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSEC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

REFERENCE INFORMATION
SREF 115.6900 SO.FT.
LREF 135.6400 IN.
BREF 145.6400 IN.
XN 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

PHI 163.000
180.000

GIMBAL .000
.000



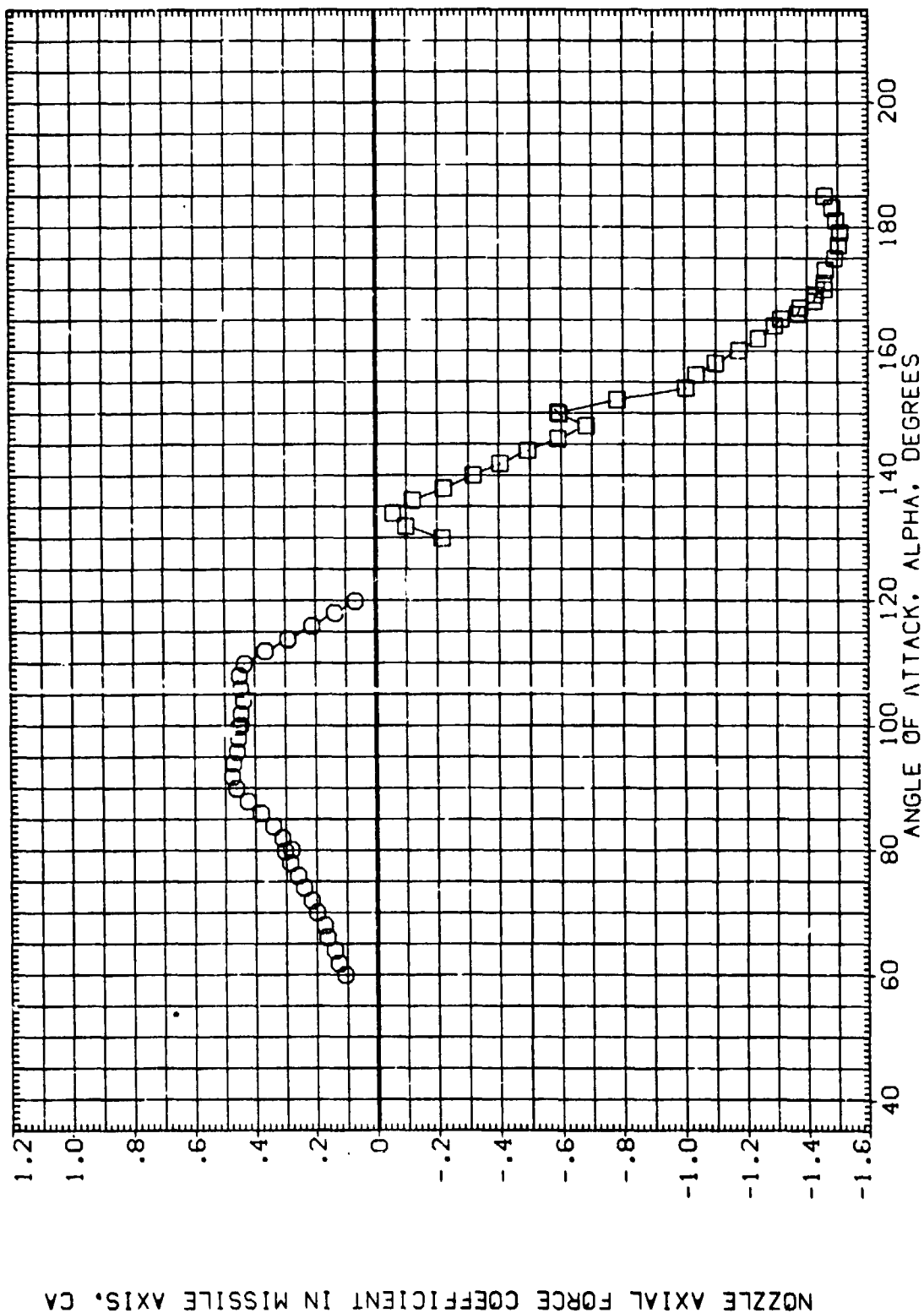
NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(B)MACH = 2.74

PAGE 8

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J201)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	SREF 115.6900 SO.FT.
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				BREF 145.6400 IN.
				XHRP 114.1950 IN. XN
				YHRP .0000 IN. YN
				ZHRP .0000 IN. ZN
				SCALE .0055



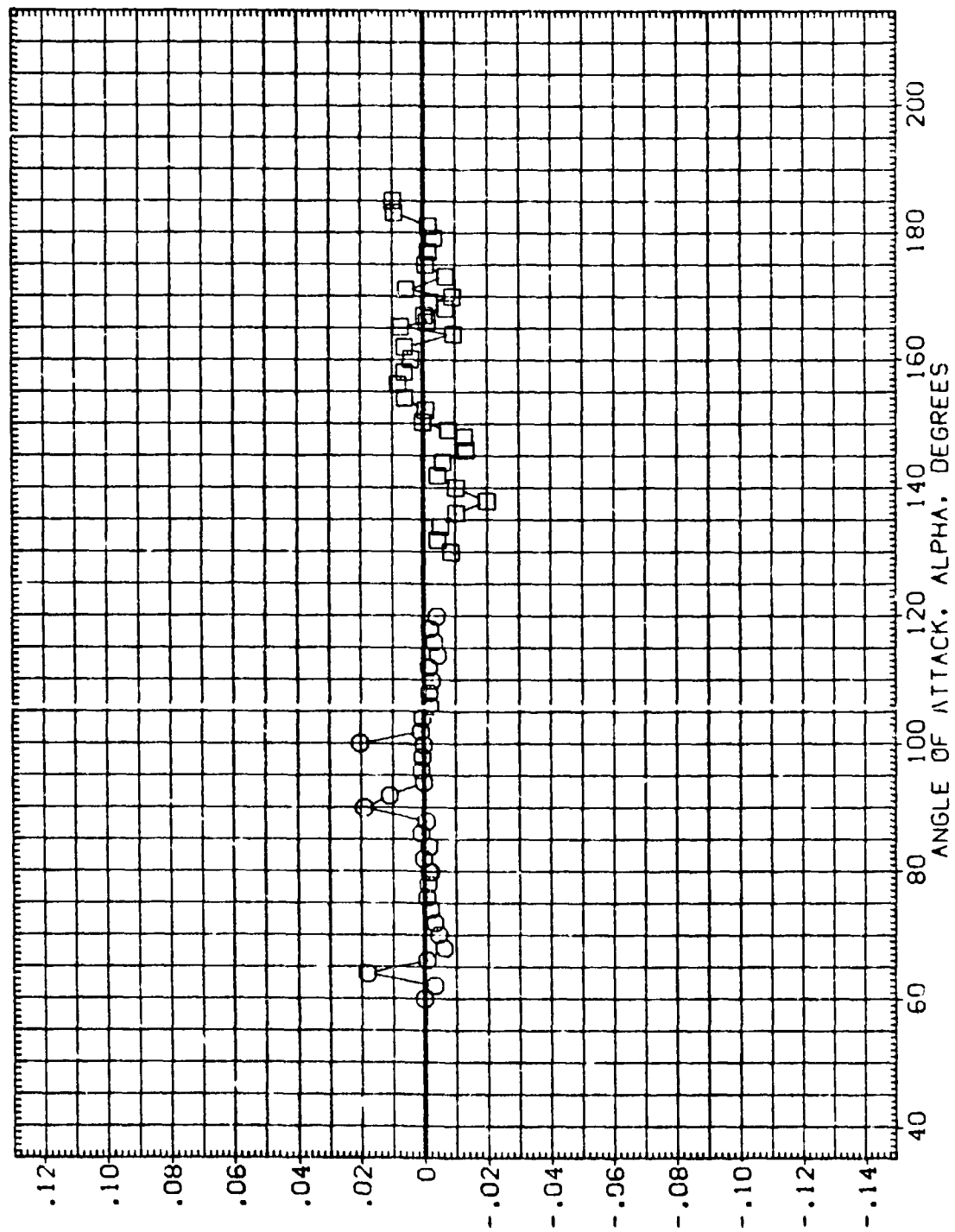
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(C)MACH = 3.48

PAGE 9

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
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(RJ202)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(A)MACH = 1.96

PAGE 10

DATA SET SYMBOL (R1J201) B
 (R1J202)

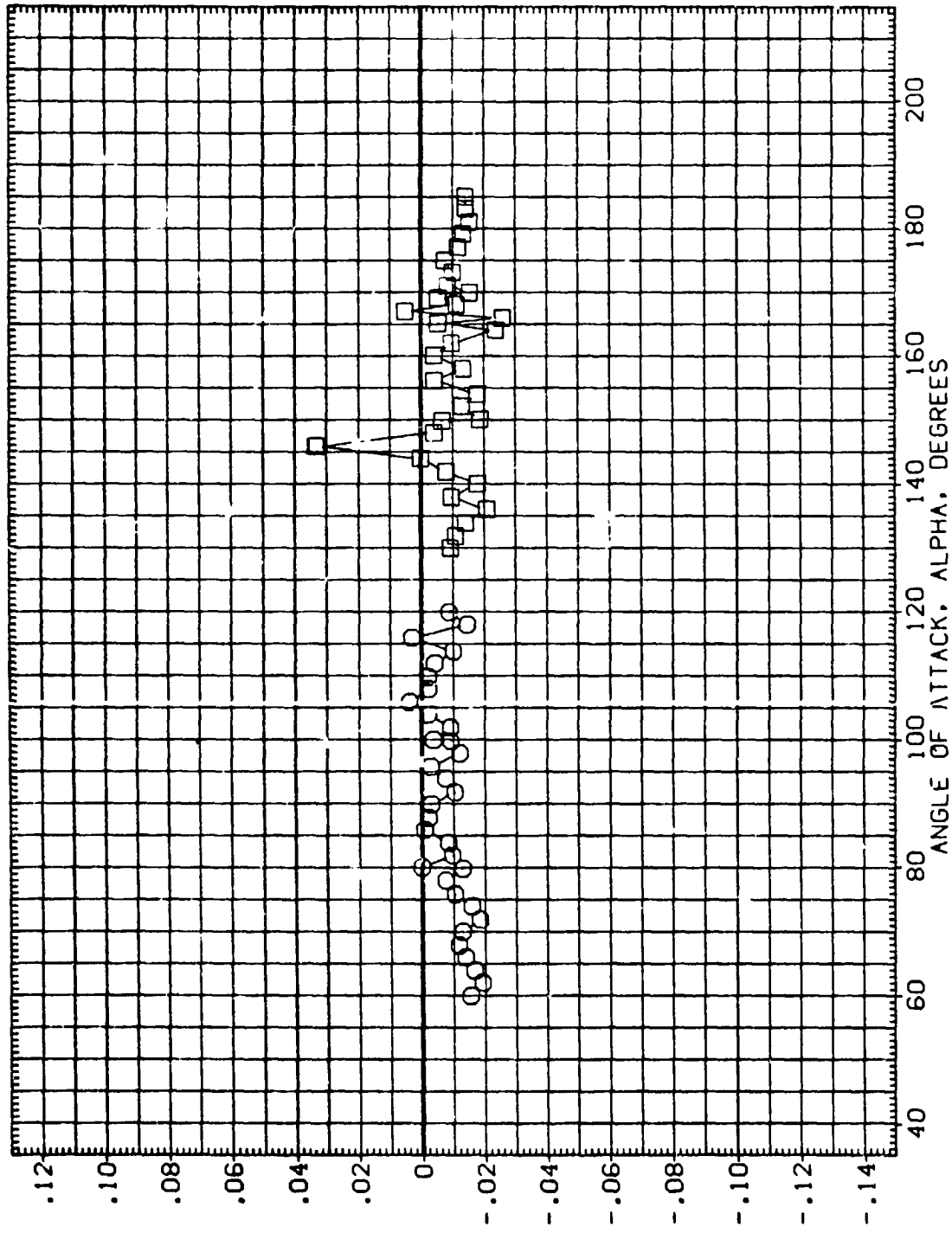
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 MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055

PHI 180.000
 180.000

GIMBAL .000
 .000

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)
 (B)MACH = 2.74
 PAGE 11

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

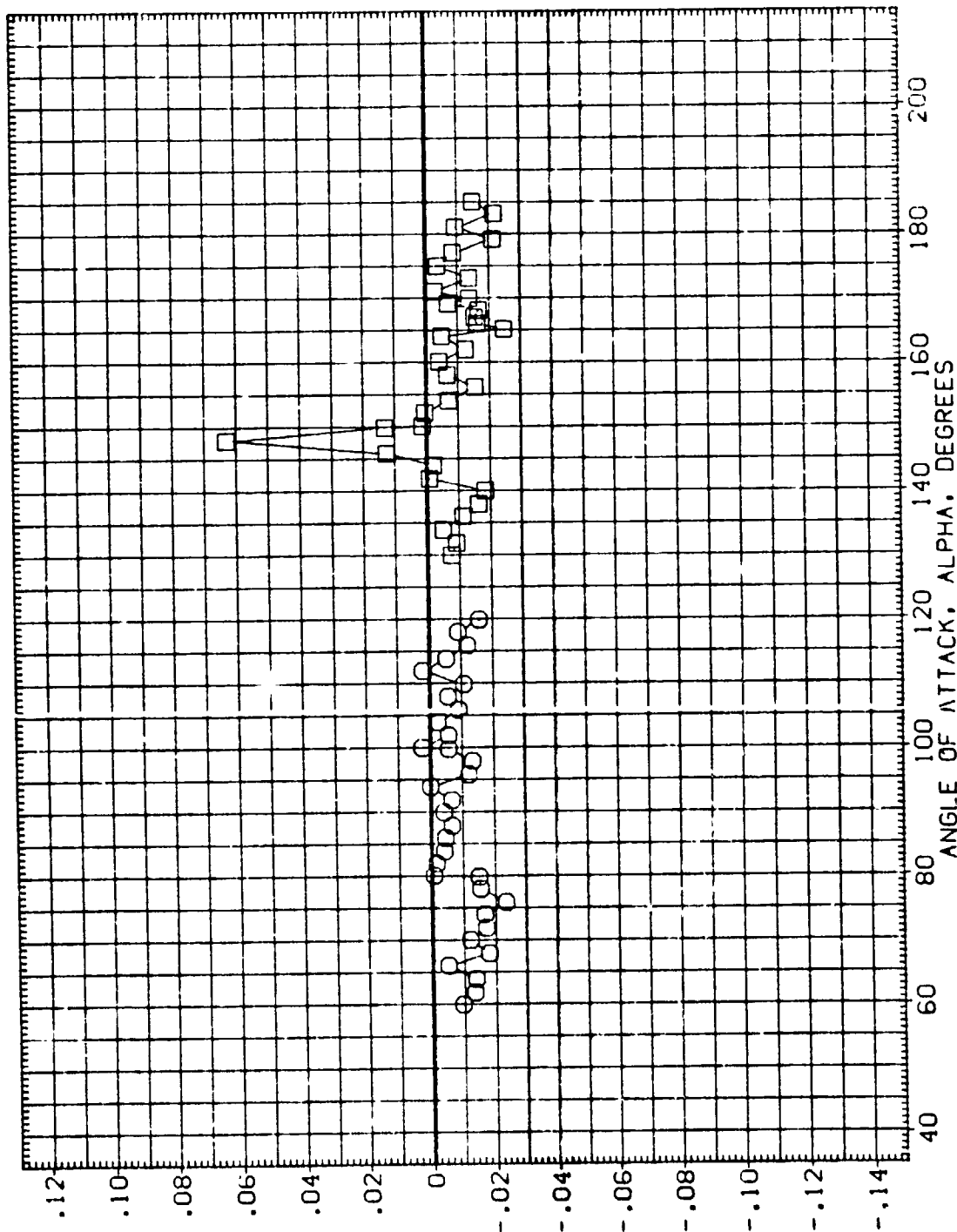
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(RIJ202) MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD 180.000 .000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(C)MACH = 3.48

PAGE 12

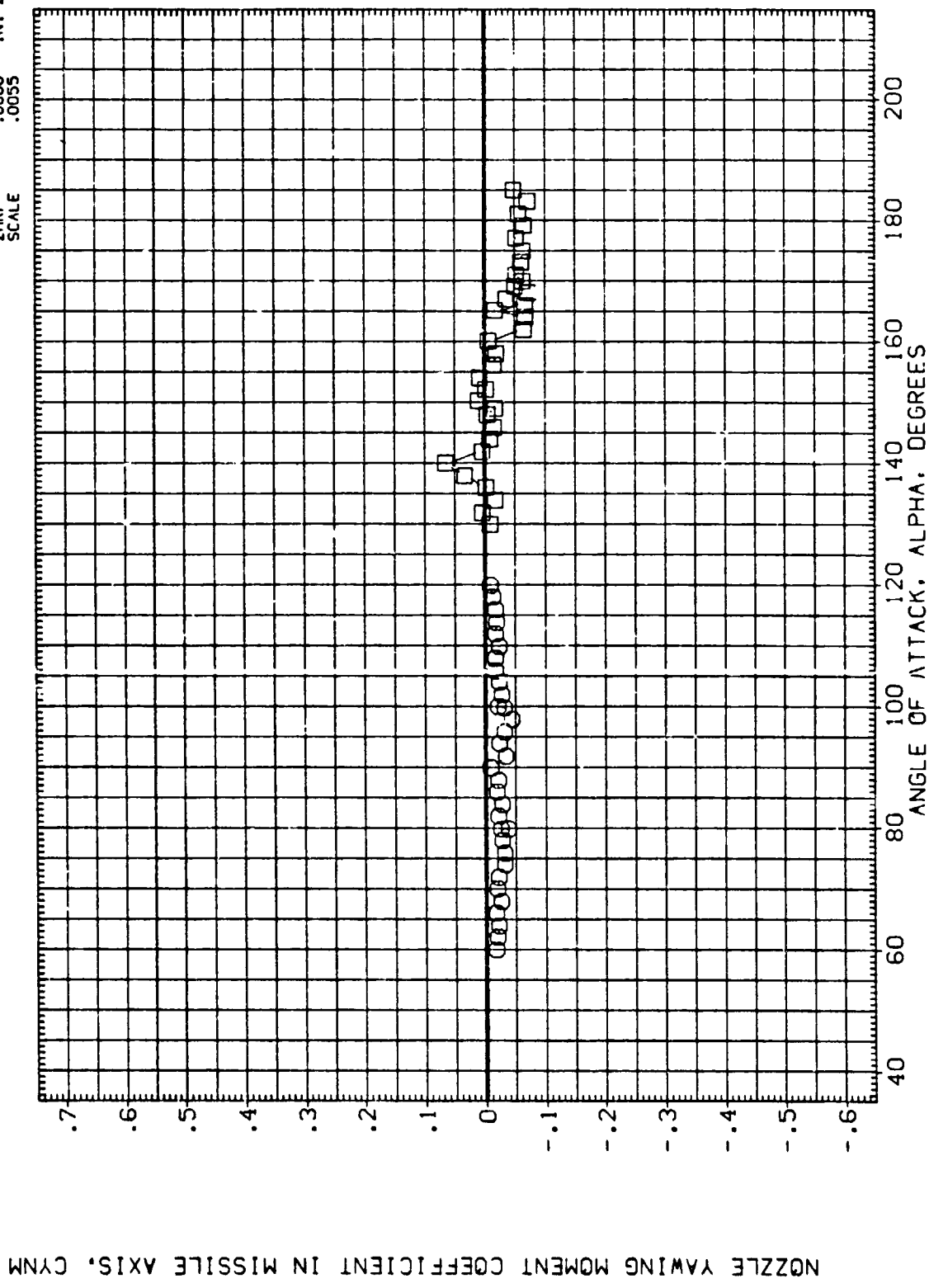
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(R1J202)

CONFIGURATION DESCRIPTION
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MSFC INT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(A)MACH = 1.96

PAGE 13

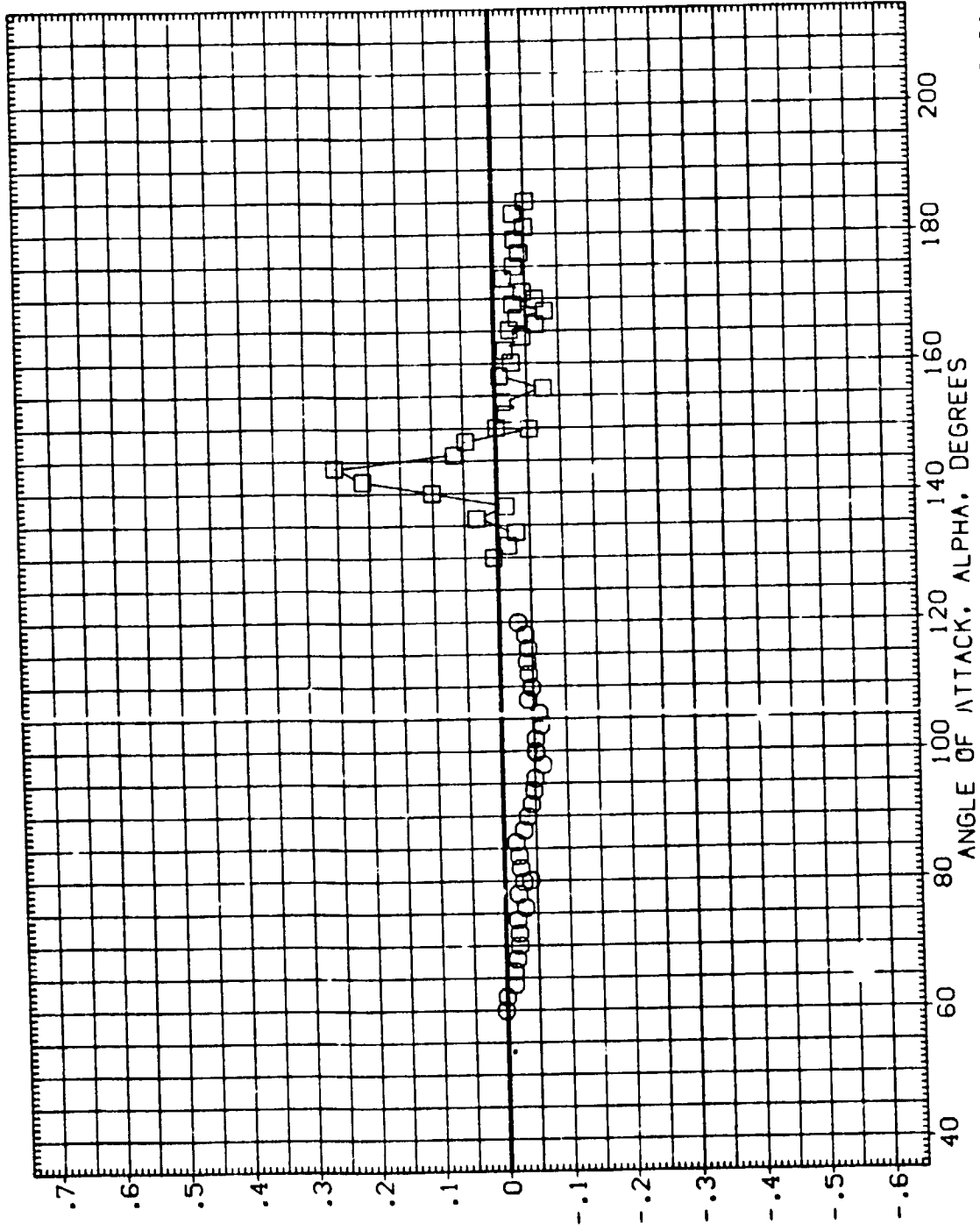
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(RIJ201)
(RIJ202)

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ. FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)
(B)MACH = 2.74
PAGE 14

DATA SET SYMBOL (R1J201) (R1J202)

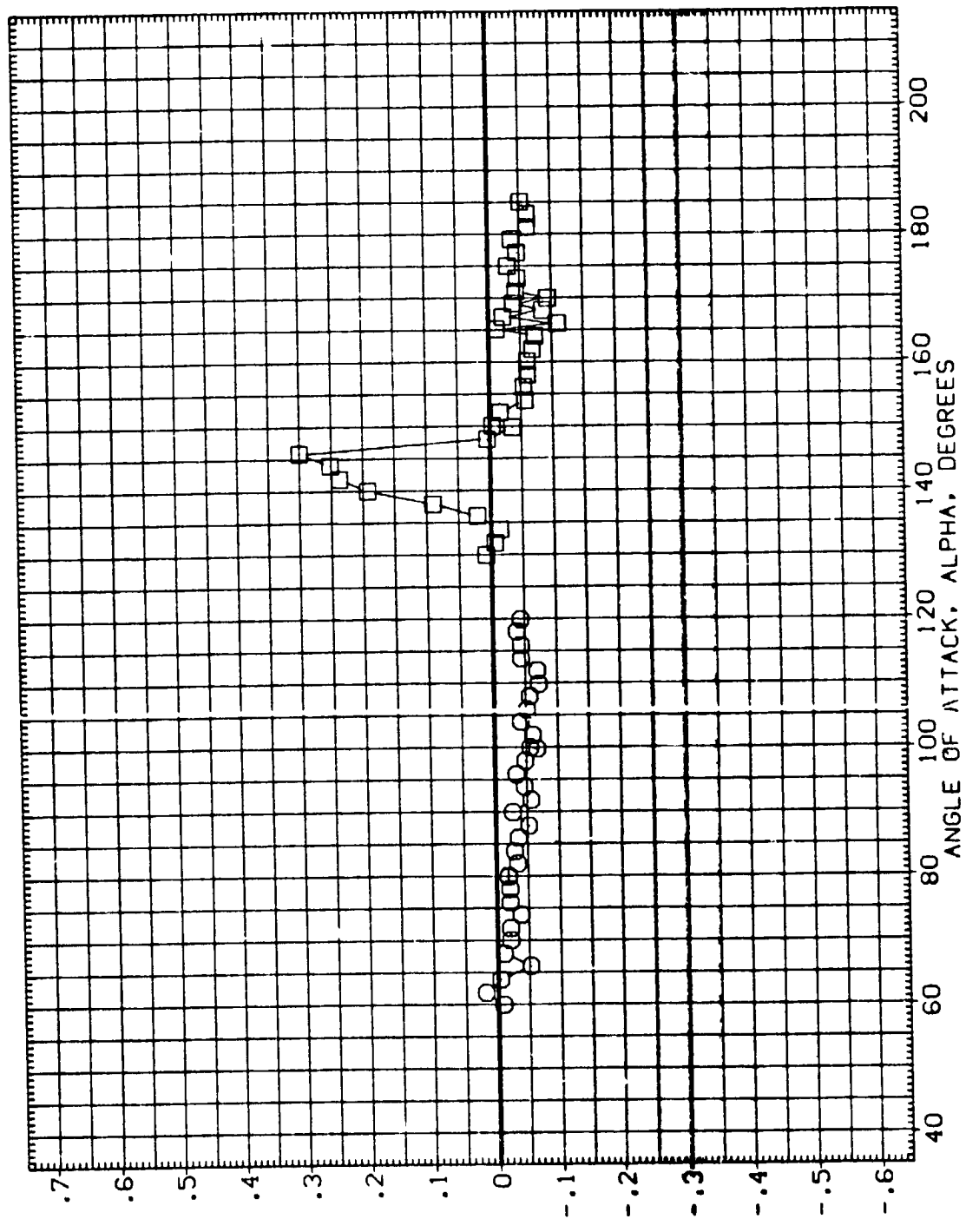
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MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 180.000

GIMBAL .000 .000

REFERENCE INFORMATION
SREF 115.6900 SO.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(C)MACH = 3.48

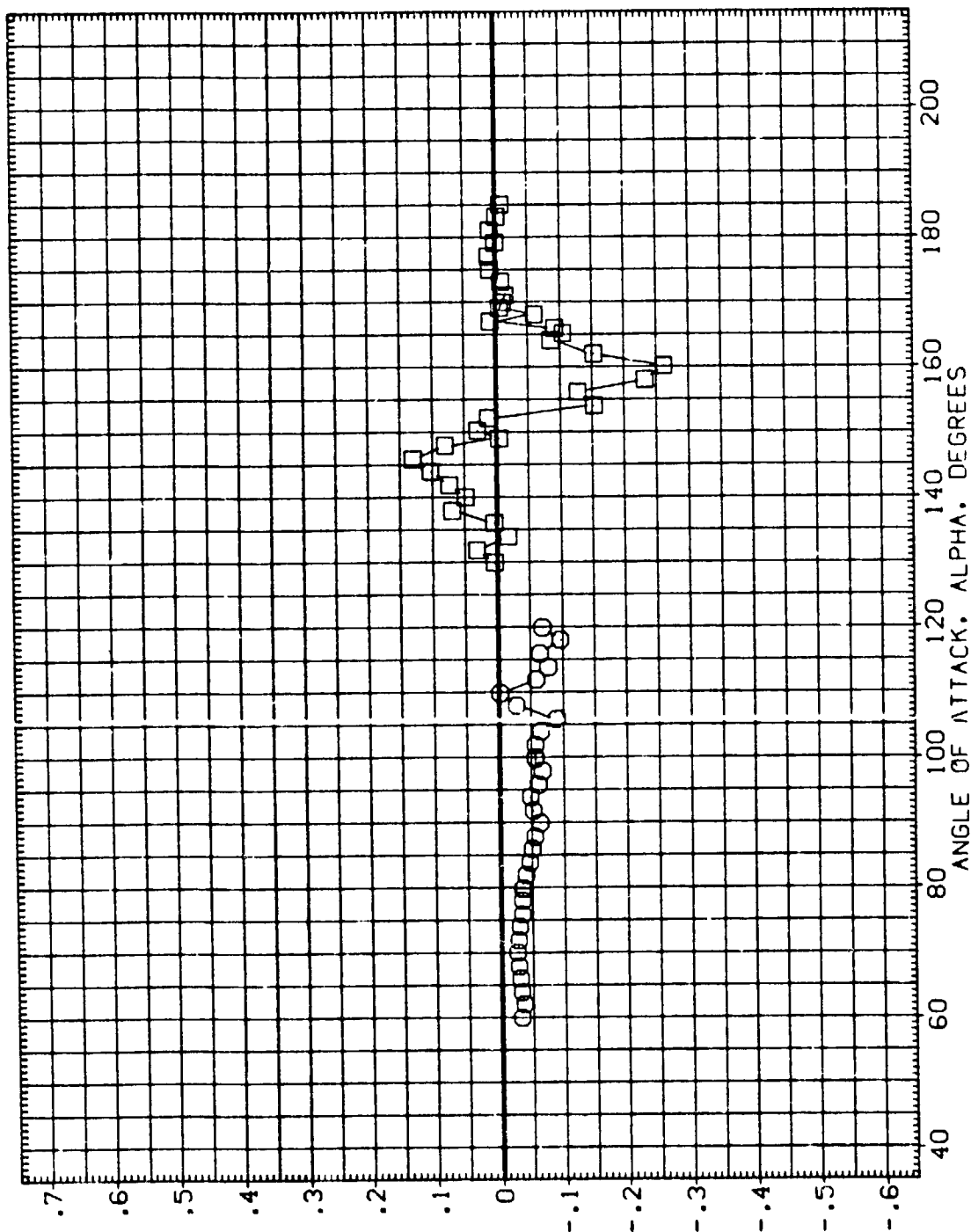
DATA SET SYMBOL (RIJ201) (RIJ202)

CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 180.000

GIMBAL .000 .000

REFERENCE INFORMATION SREF 115.6900 SQ.FT. LREF 145.6400 IN. BRFP 145.6400 IN. XN 114.1950 IN. YN .0000 IN. ZN .0000 IN. SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(A)MACH = 1.96

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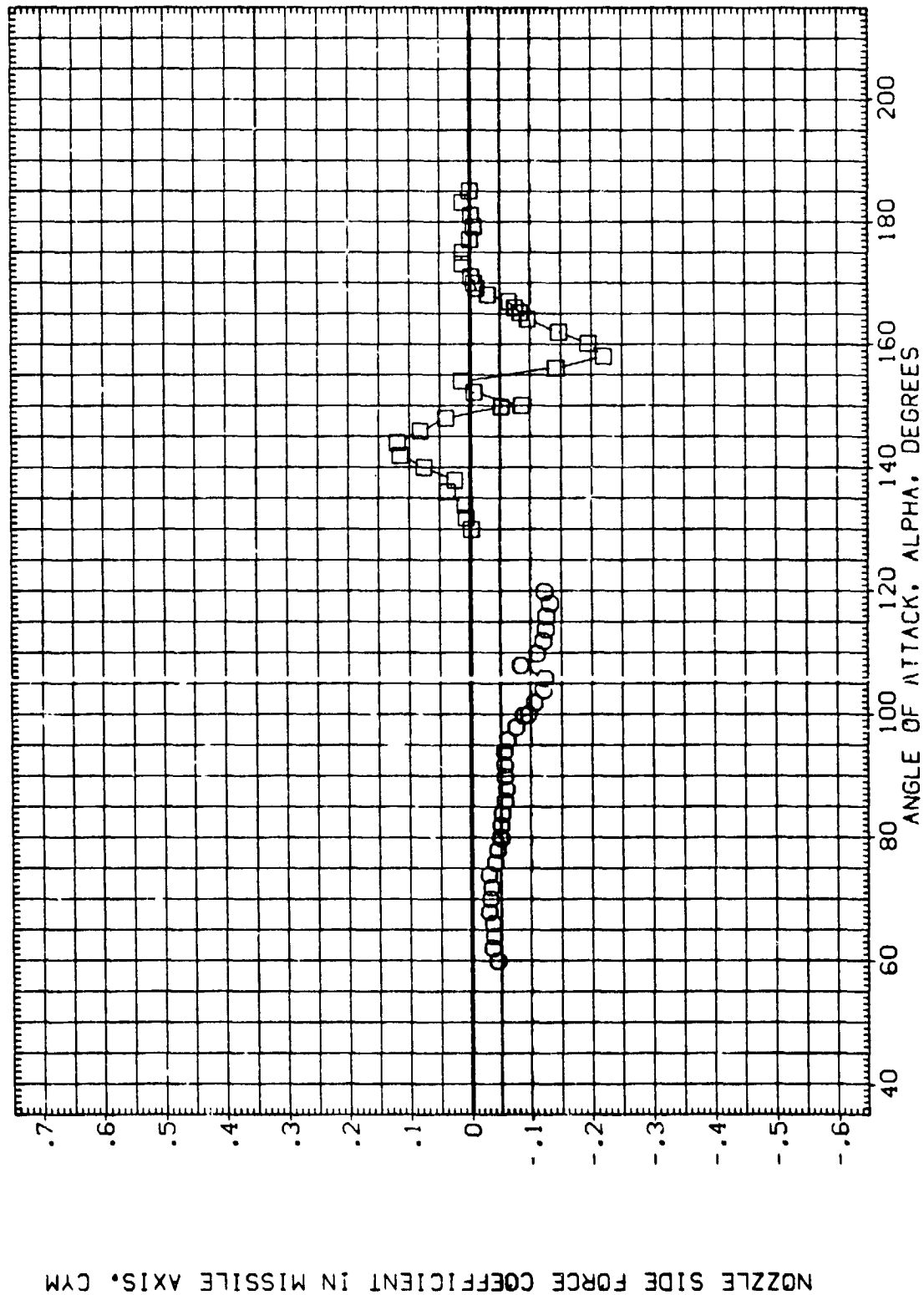
DATA SET SYMBOL (R1J201) (R1J202)

CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 180.000

GIMBAL .000 .000

REFERENCE INFORMATION SREF 115.6900 SQ.FT. LREF 145.6400 IN. BREF 145.6400 IN. XN 114.1950 IN. YN .0000 IN. ZN .0000 IN. SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(B)MACH = 2.74

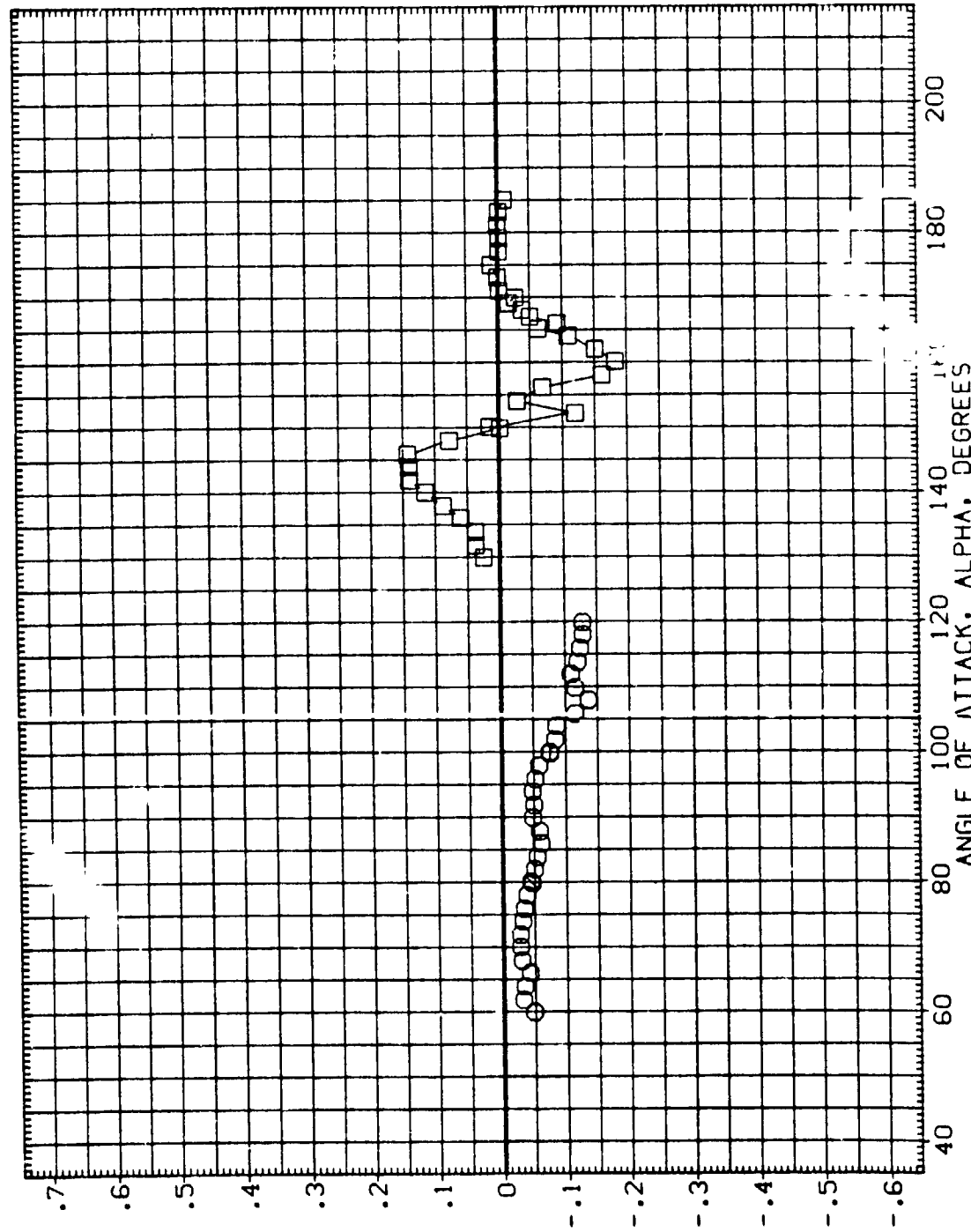
DATA SET SYMBOL
(RIJ201)
(RIJ202)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

ANGLE OF ATTACK, ALPHA, DEGREES

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=0.0)

(C)MACH = 3.48

PAGE 18

DATA SET SYMBOL
(RIJ203)
(RIJ204)

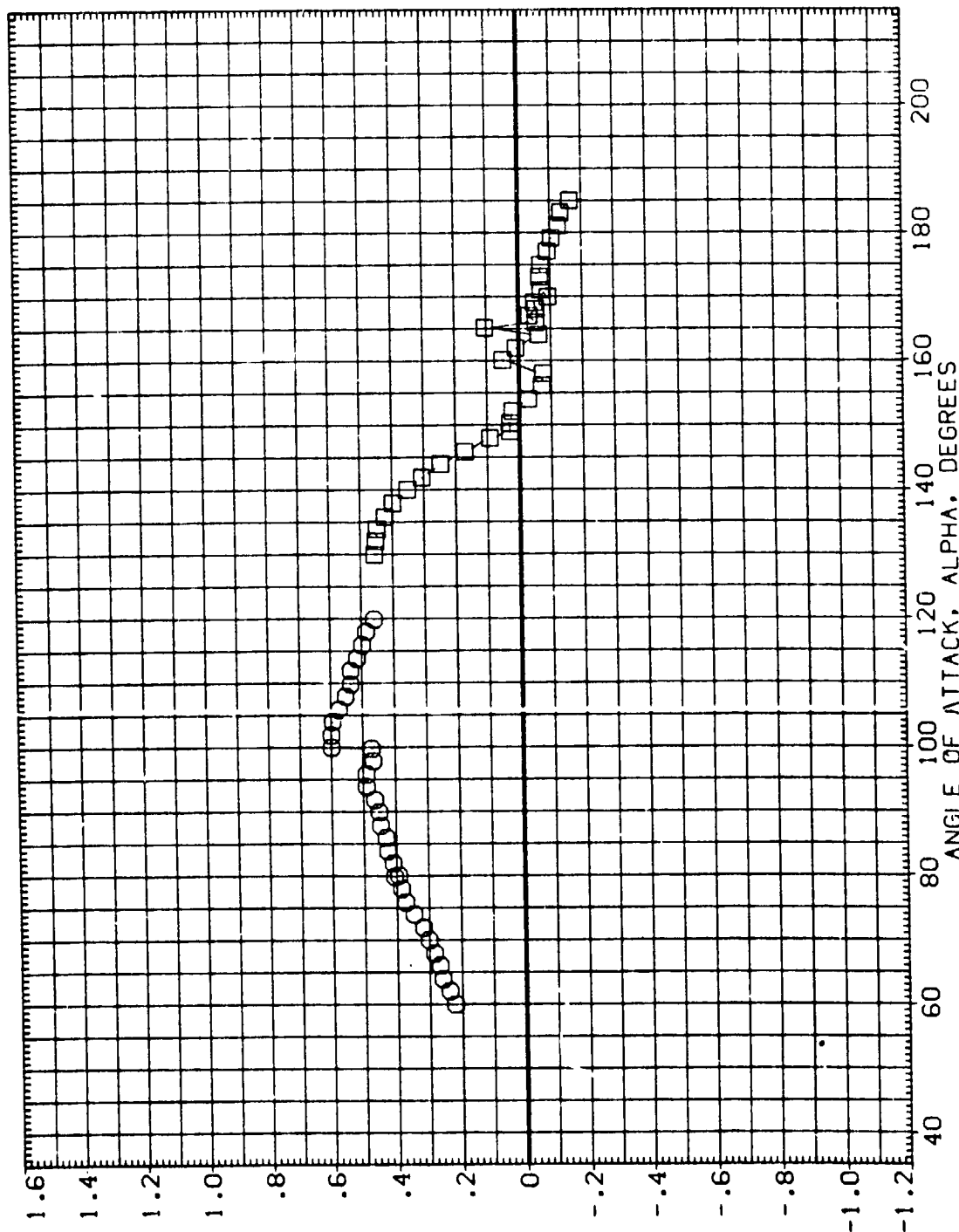
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XM
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(A)MACH = 1.97

PAGE 19

DATA SET SYMBOL (R1J203)
(R1J204)

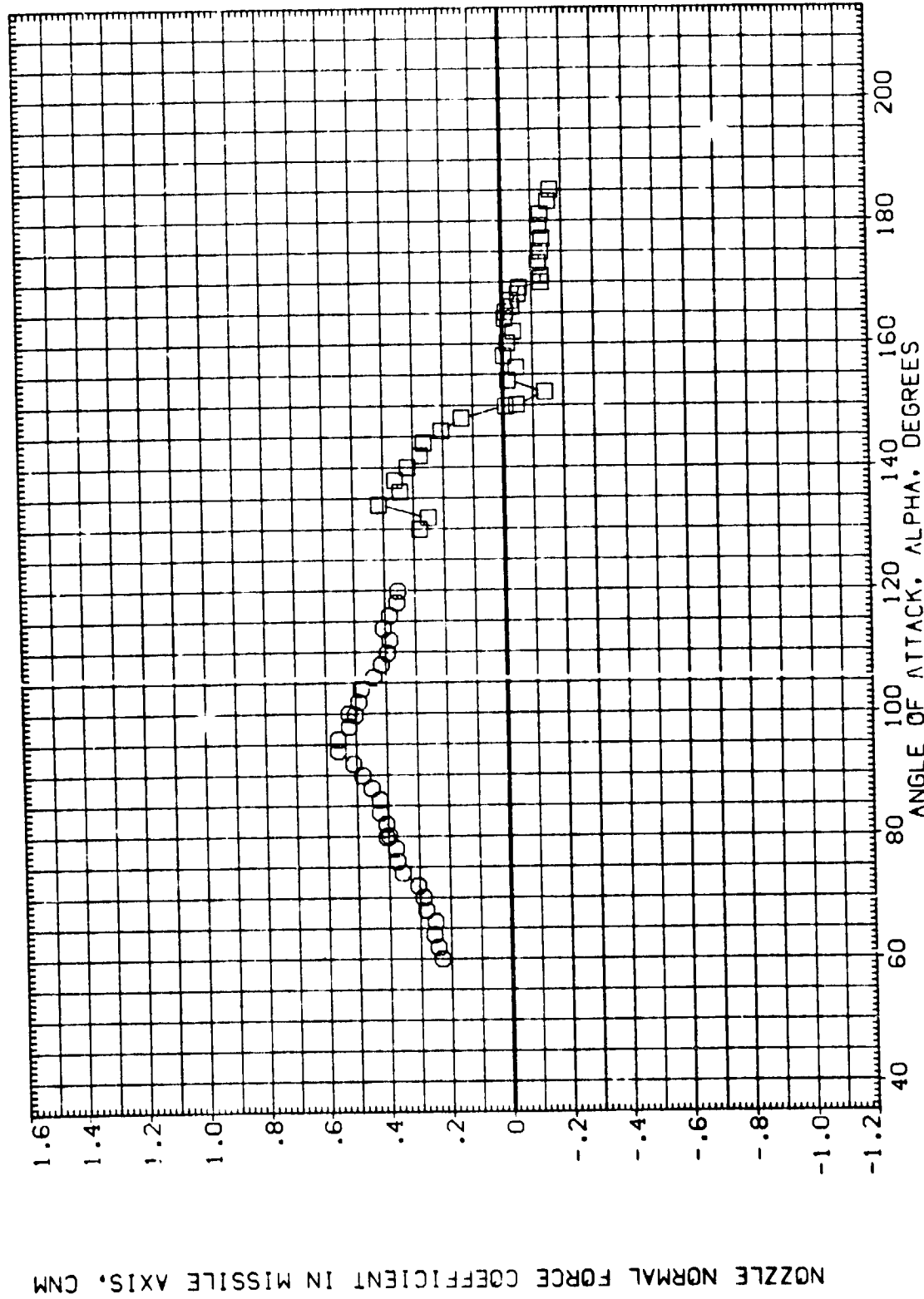
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION

SREF 115.6900 50.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XHRP 114.1950 IN. XN
YHRP .0000 IN. YN
ZHRP .0000 IN. ZN
SCALE .0055

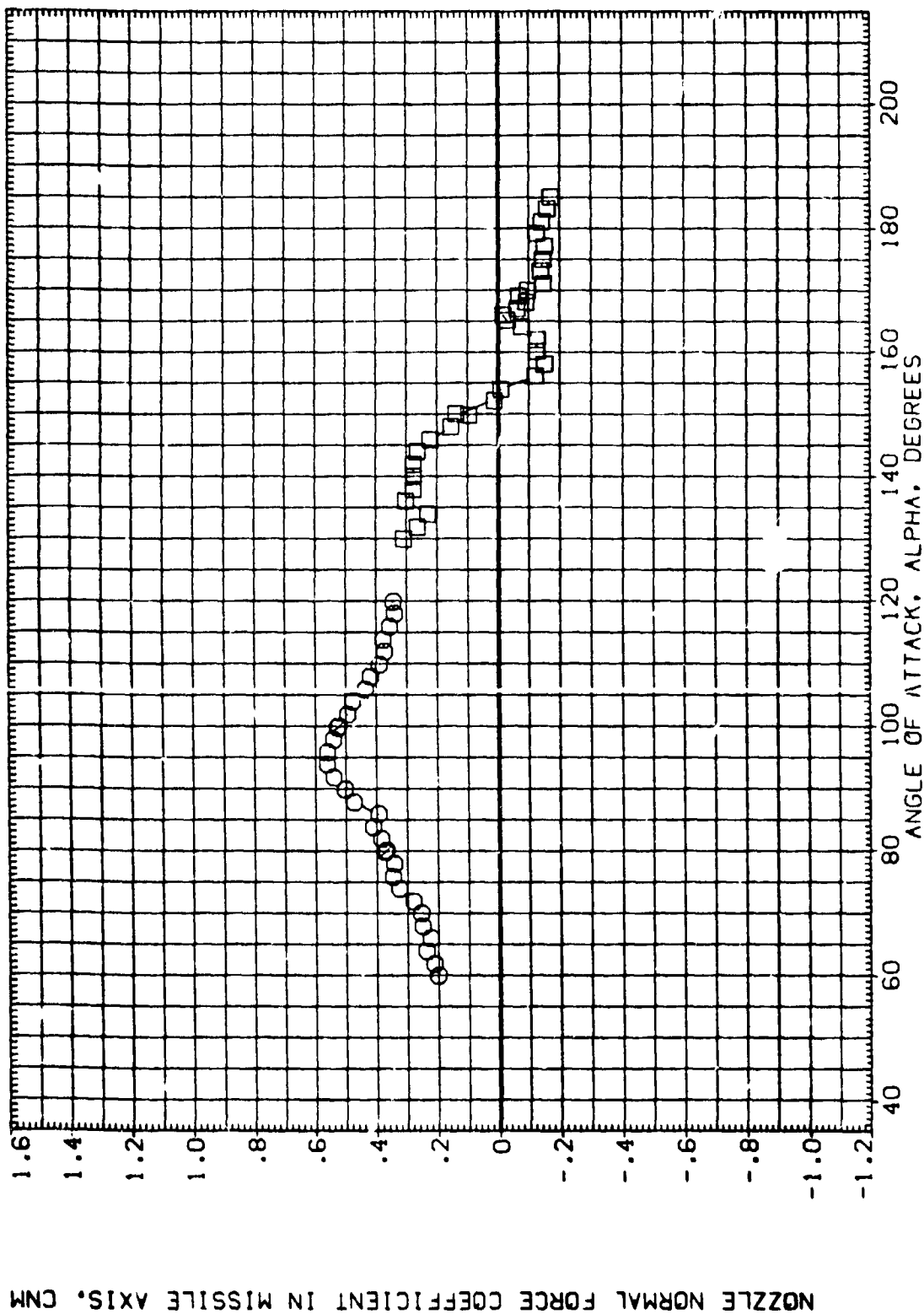


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(B)MACH = 2.74

PAGE 20

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ203)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	5.000	SREF 115.6900 50.FT.
(RIJ204)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				ZMRP .0000 IN. YN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(C)MACH = 3.48

PAGE 21

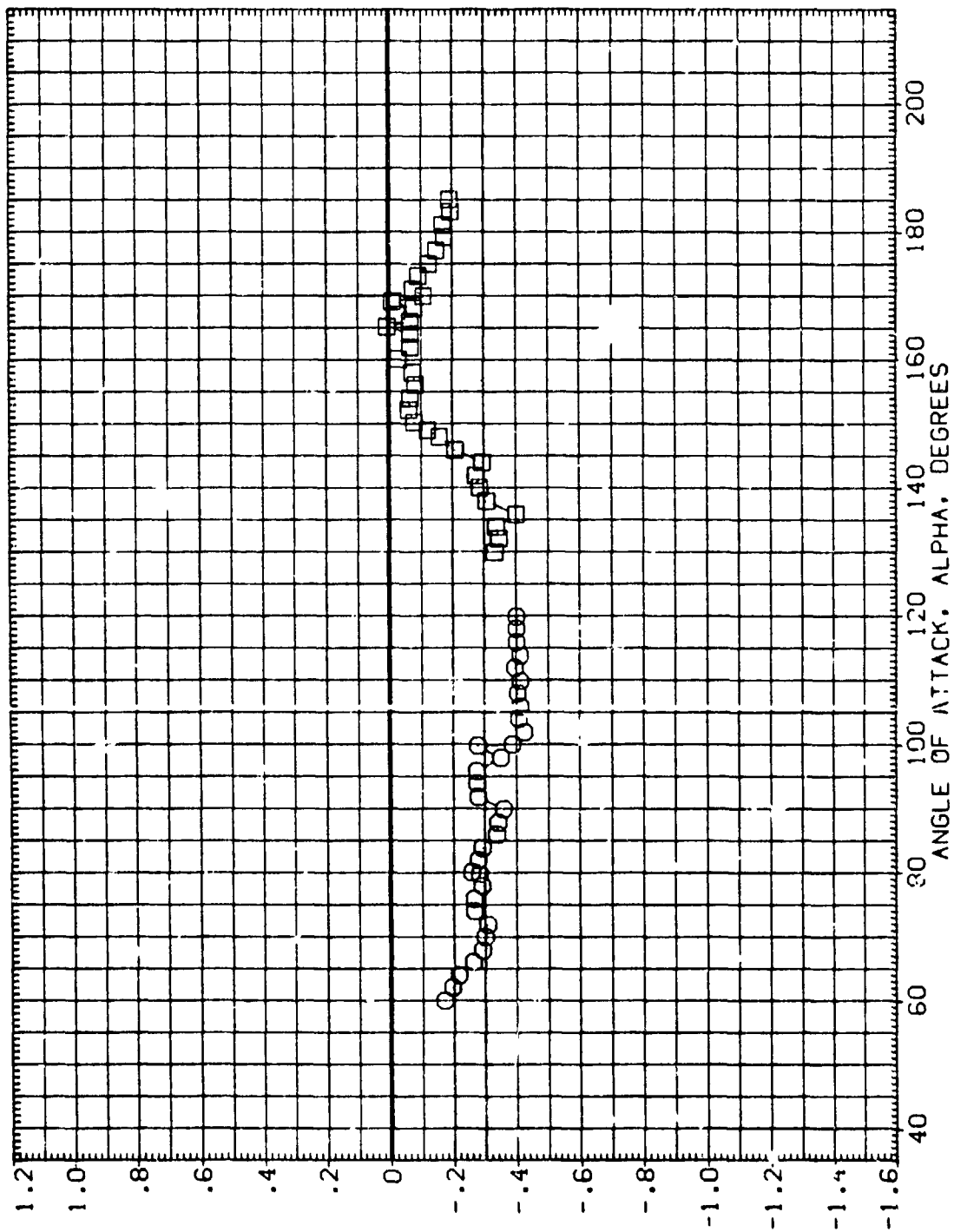
DATA SET SYMBOL (R1J203) (R1J204) B

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 5.000 5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(AJMACH = 1.97

PAGE 22

REFERENCE INFORMATION

SREF	115.6900	SO.FT.
LREF	145.6400	IN.
BREF	145.6400	IN.
XMRP	114.1950	IN. XN
YMRP	.0000	IN. YN
ZMRP	.0000	IN. ZN
SCALE	.0055	

GIMBAL

PHI	180.000
GIMBAL	5.000

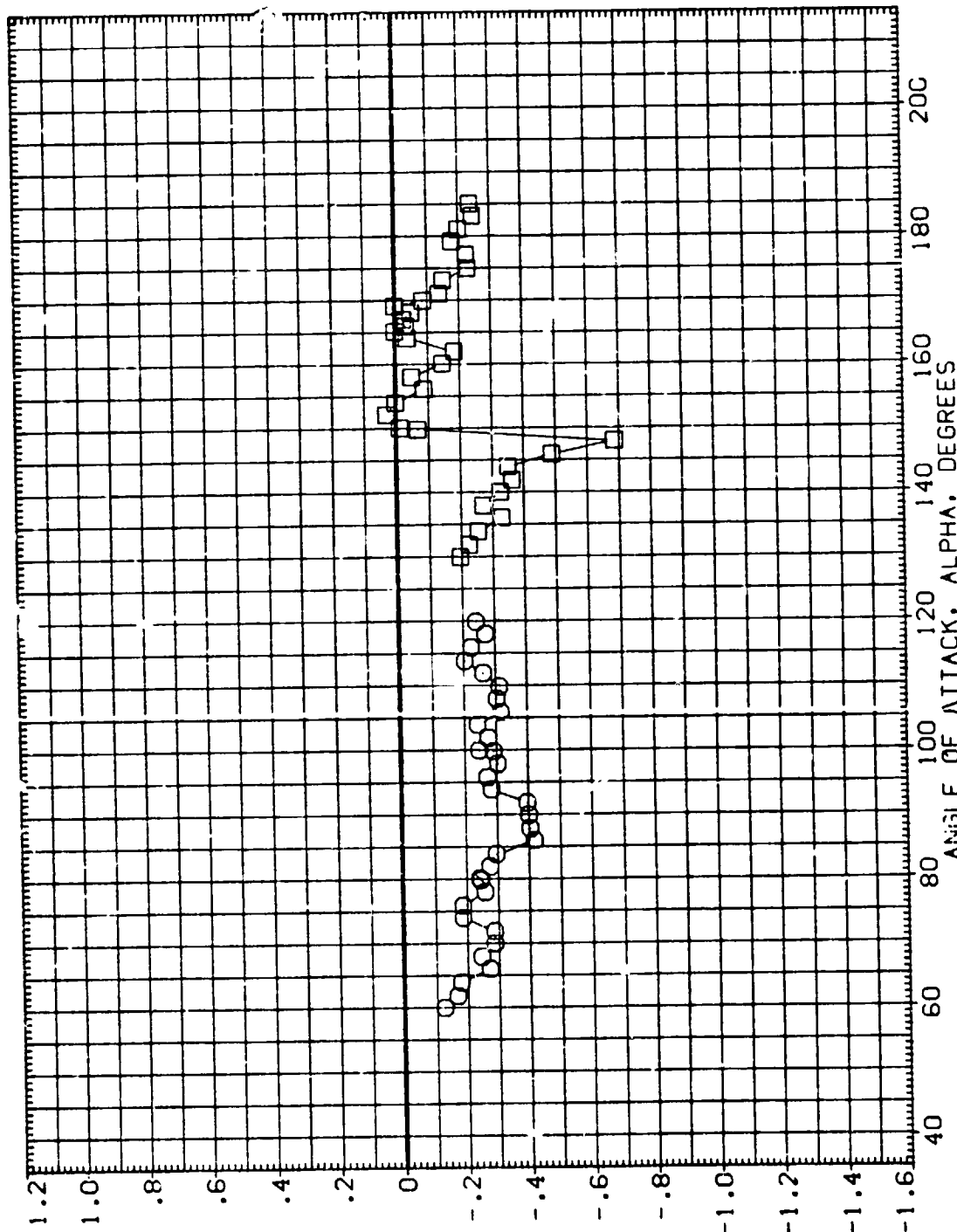
CONFIGURATION DESCRIPTION

MSFC TWT 611 (SA30F)	SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (CA30F)	SRB WITHOUT HEAT SHIELD

DATA SET SYMBOL

MSFC TWT 611 (SA30F)	SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (CA30F)	SRB WITHOUT HEAT SHIELD

NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(B)MACH = 2.74

PAGE 23

REFERENCE INFORMATION

SREF	115.6900	SO.FT.
LREF	145.6400	IN.
BREF	145.6400	IN.
YMRP	114.1950	IN.
ZMRP	.0000	IN.
SCALE	.0055	IN.

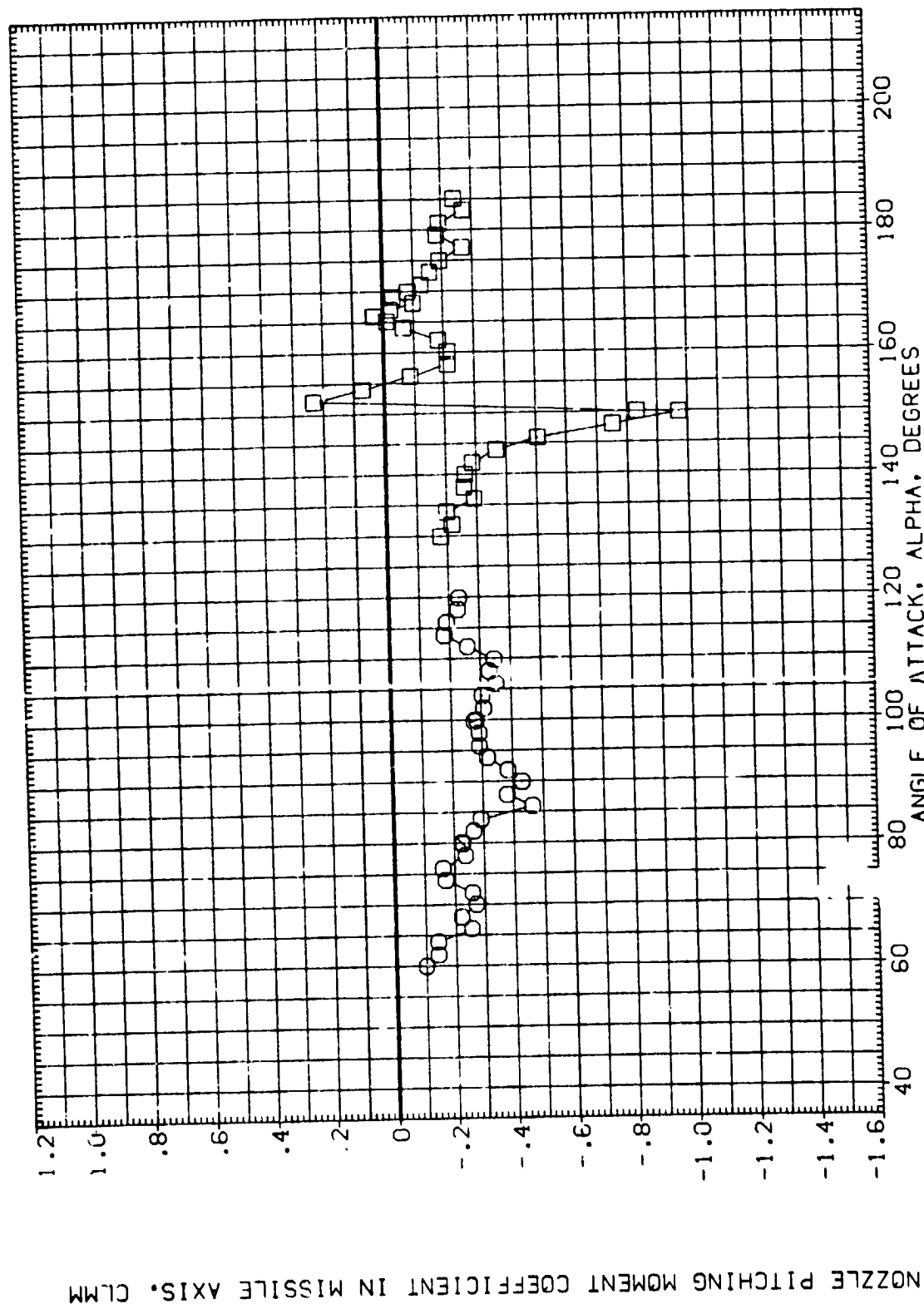
GIMBAL

PHI	180.000
GIMBAL	5.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

MSFC TWT 611 (SA30F)	SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F)	SRB WITHOUT HEAT SHIELD

(R1J203)
(R1J204)



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

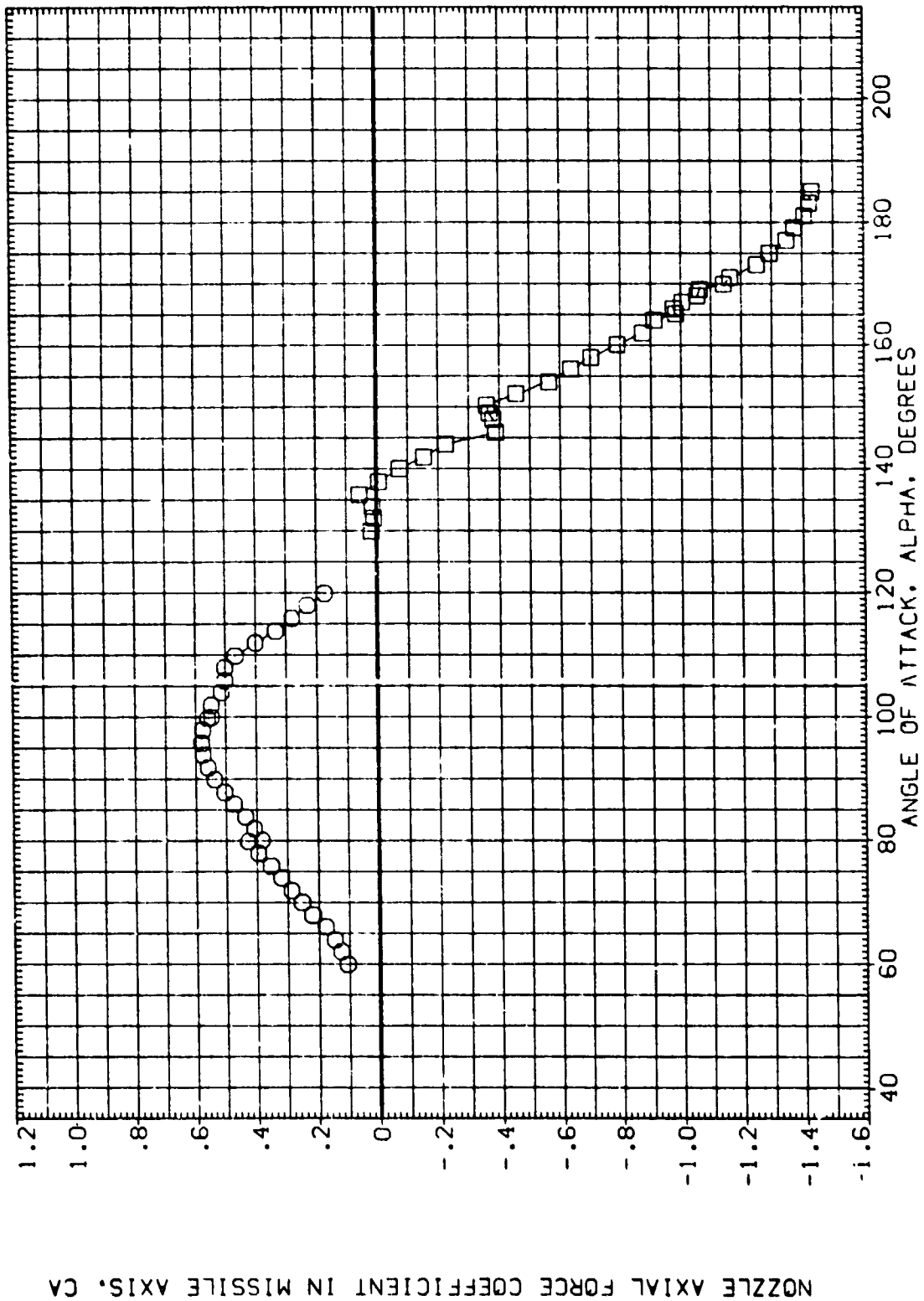
(CJ)MACH = 3.7

PAGE 24

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0035

PHI GIMBAL
 180.000 5.000
 180.000 5.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RIJ203) MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
 (RIJ204) MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(A)MACH = 1.97

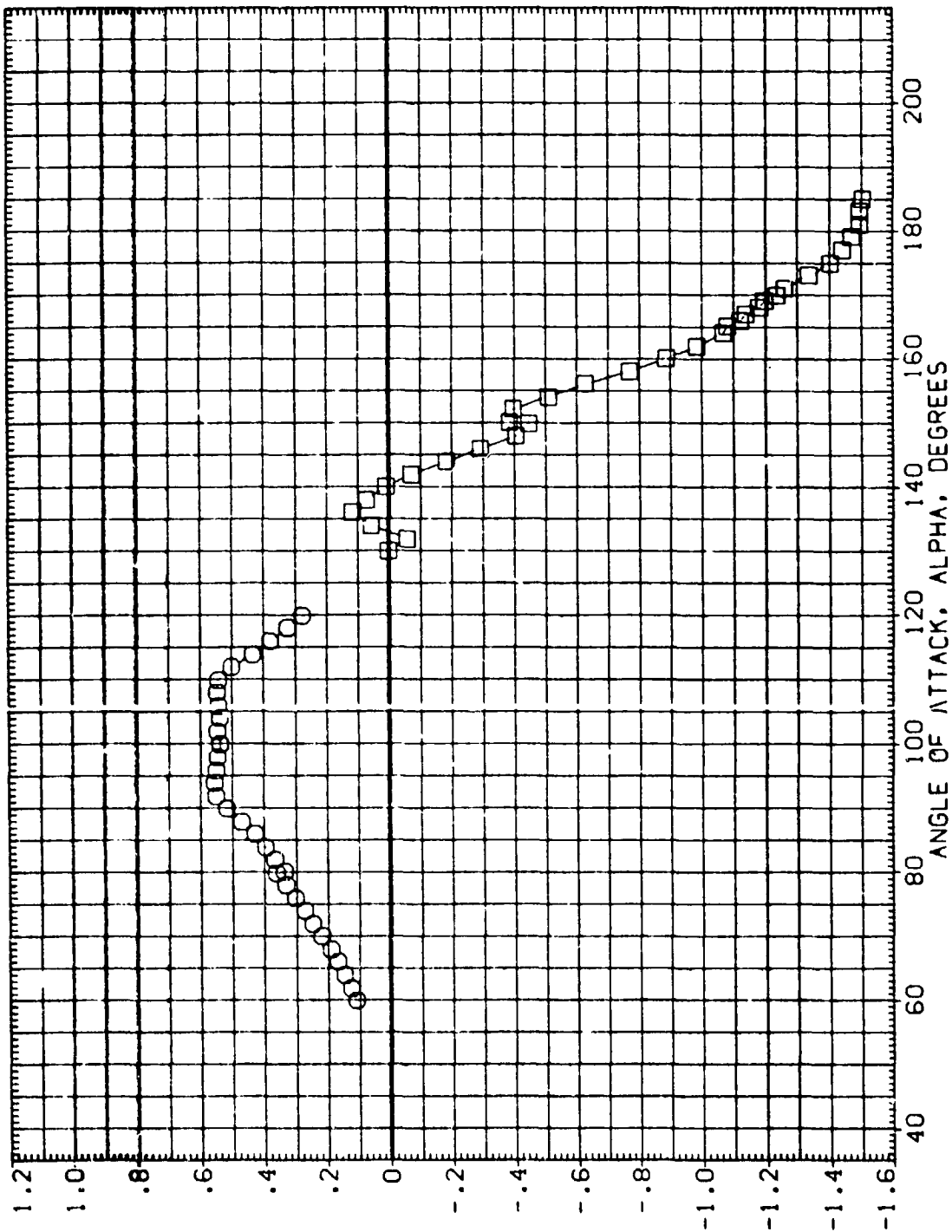
DATA SET SYMBOL (RIJ203) (RIJ204)

CONFIGURATION DESCRIPTION
MSFC TWI 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWI 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
ZMRP .0000 IN. YN
SCALE .0055 IN. ZN



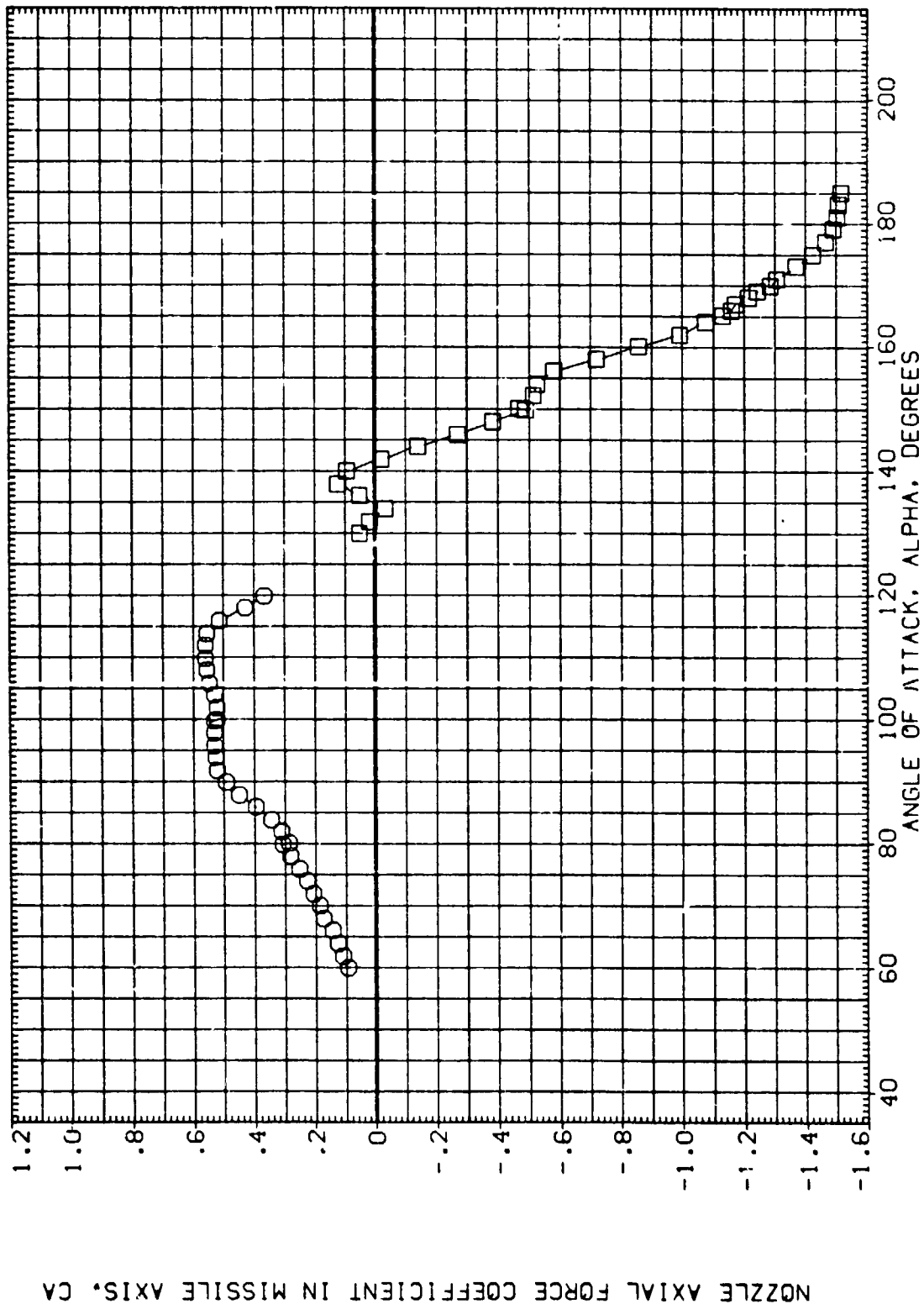
NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(B)MACH = 2.74

PAGE 26

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ203)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	5.000	SREF 115.6900 SQ.FT.
(RIJ204)	MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD	180.000	5.000	UREF 145.6400 IN.
				BREF 145.6400 IN.
				XHRP 114.1950 IN. XN
				YHRP .0000 IN. YN
				ZHRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(C)MACH = 3.48

PAGE 27

DATA SET SYMBOL (R1J203) (R1J204)

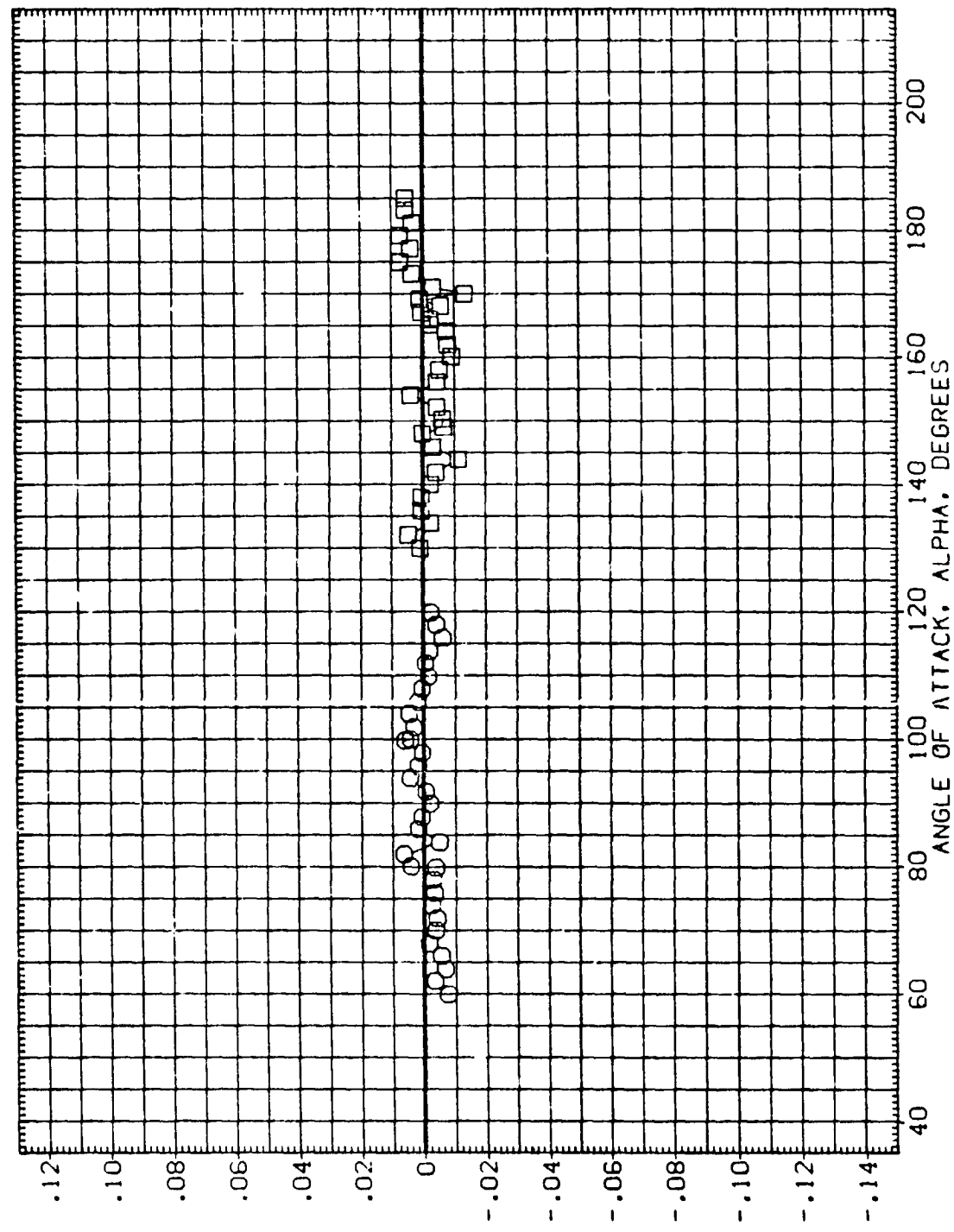
CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION SREF 115.6900 SO.FT. LREF 145.6400 IN. BREF 145.6400 IN. XN 114.1950 IN. YN .0000 IN. ZN .0000 IN. ZMRP .0035 SCALE

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(M)MACH = 1.97

PAGE 28

DATA SET SYMBOL
(RIJ203)
(RIJ204)

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

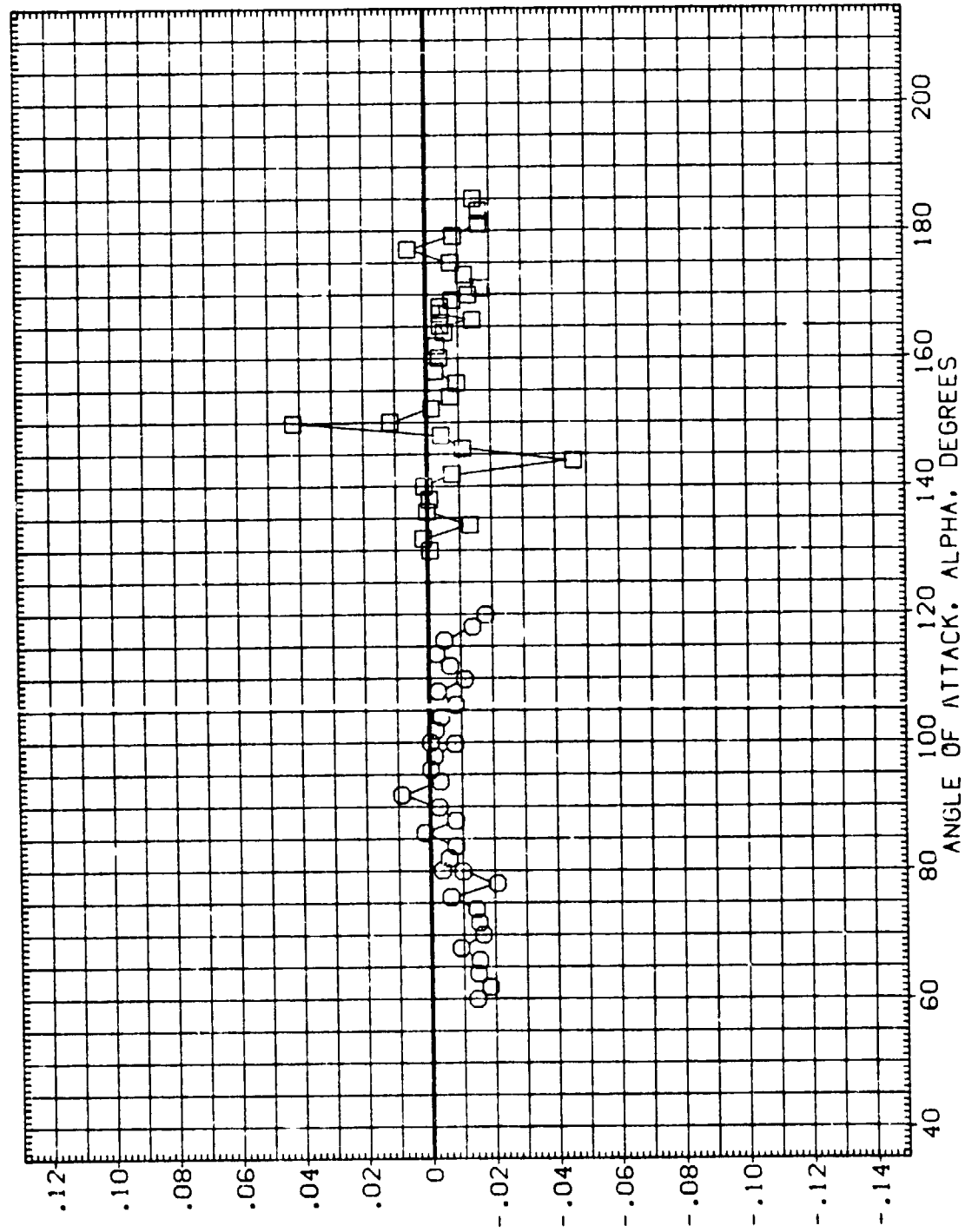
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(B)MACH = 2.74

DATA SET SYMBOL
(R1J203)
(R1J204)

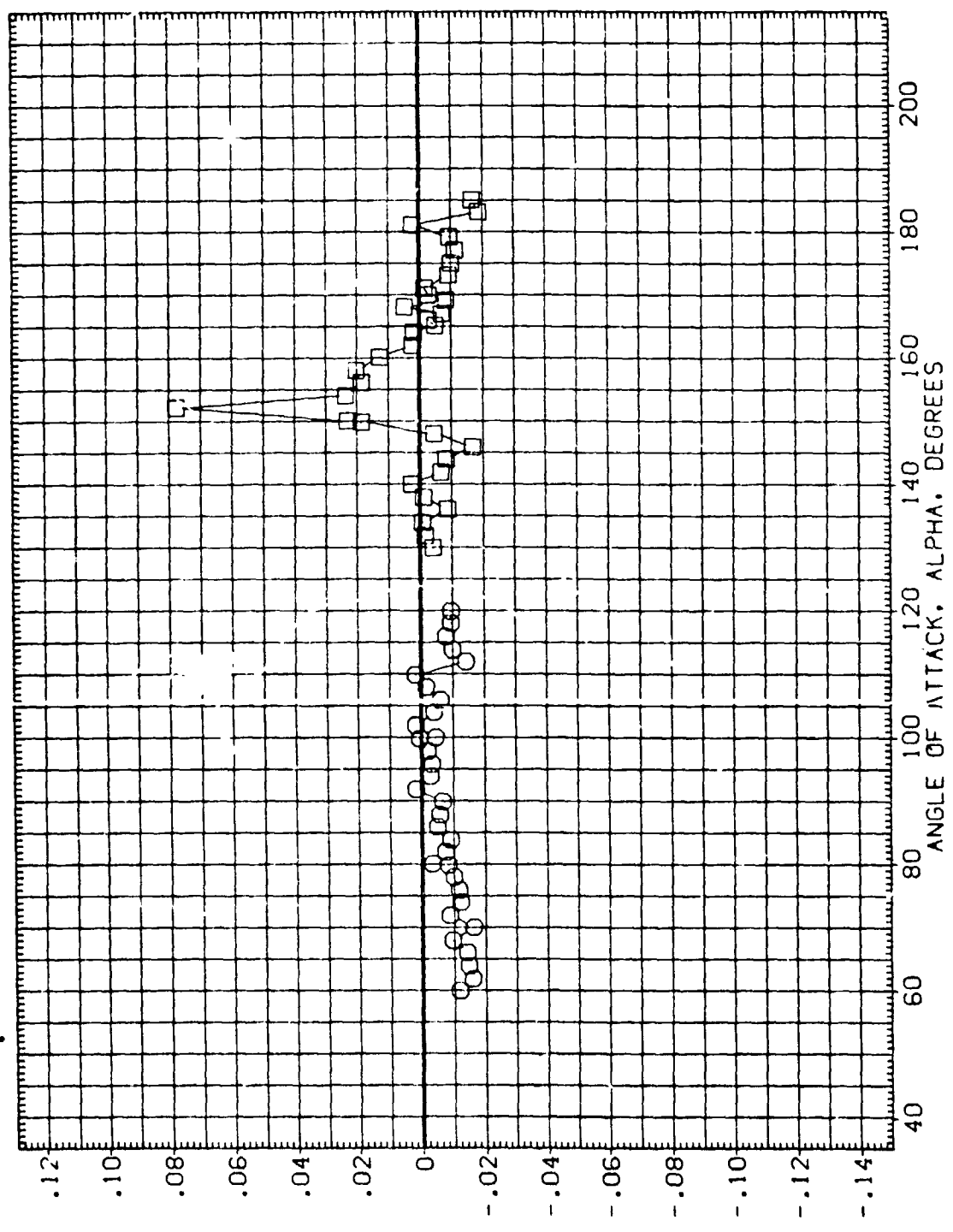
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(C)MACH = 3.48

DATA SET SYMBOL
(R1J203)
(R1J204)

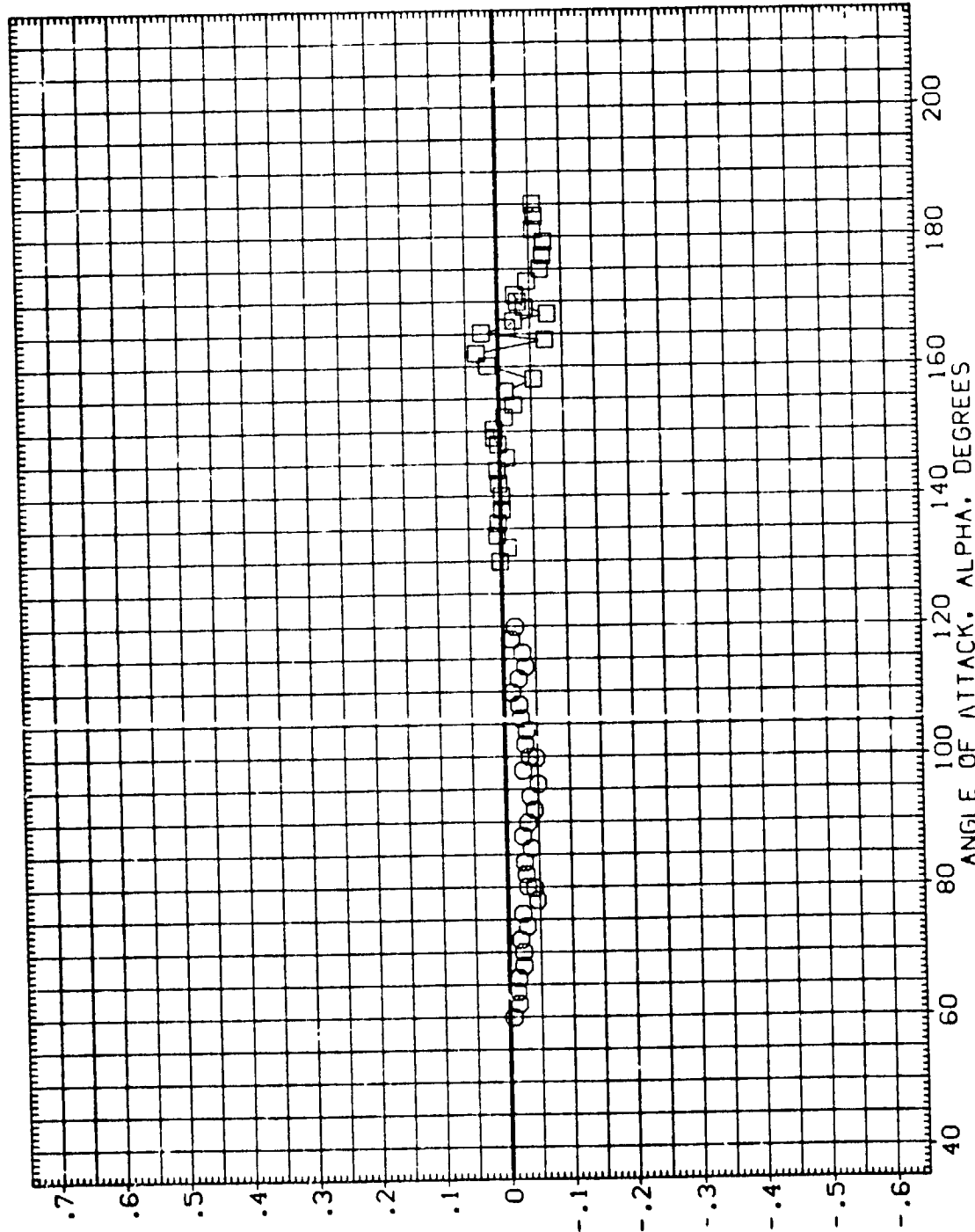
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(A)MACH = 1.97

PAGE 31

DATA SET SYMBOL (R1J203) (R1J204) B

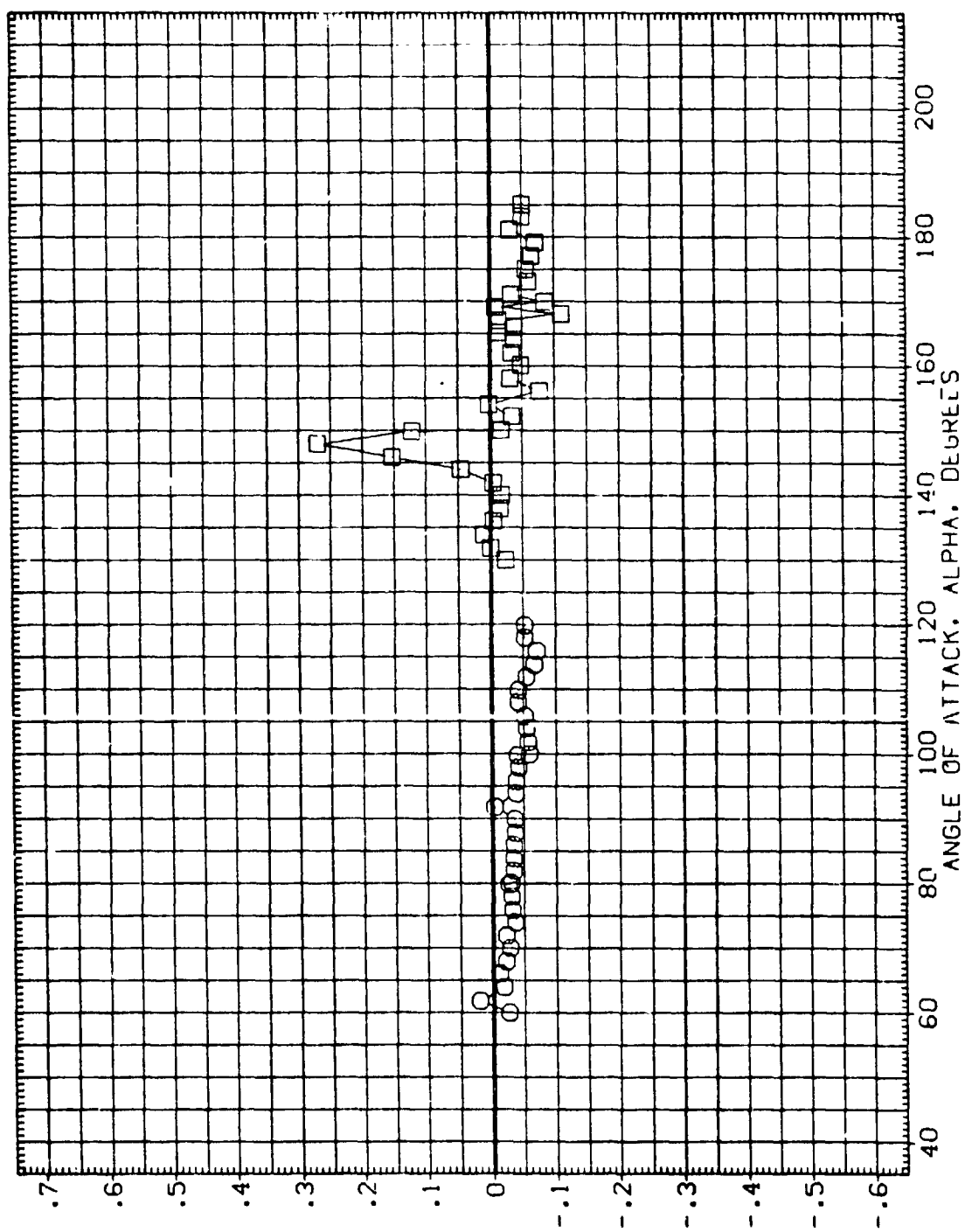
CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
 MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
 180.000
 180.000

GIMBAL
 5.000
 5.000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XHRP 114.1950 IN. XN
 YHRP .0000 IN. YN
 ZHRP .0000 IN. ZN
 SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(BJMACH = 2.74

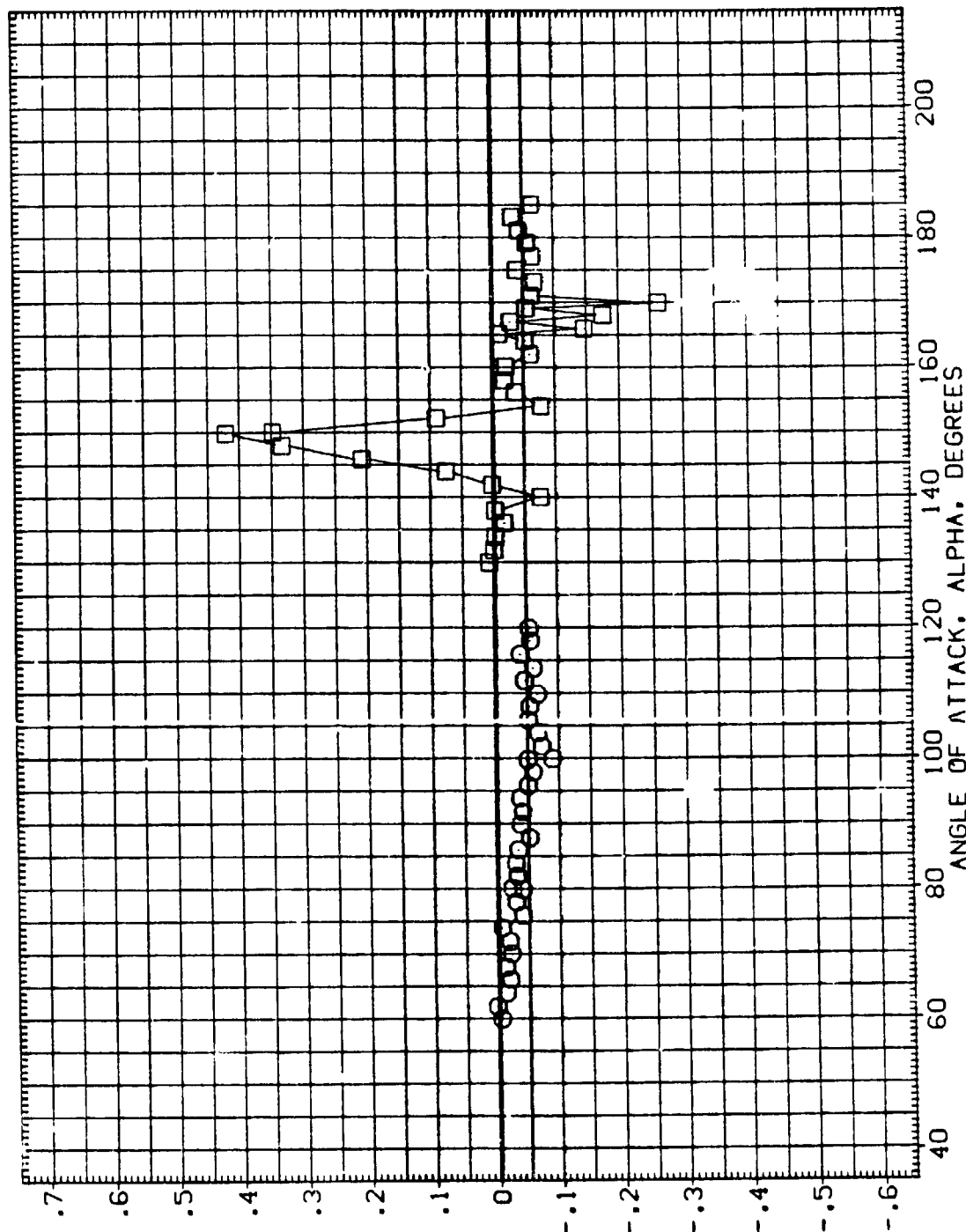
PAGE 32

DATA SET SYMBOL C-CONFIGURATION DESCRIPTION PHI GIMBAL
 (R1202) MSFC TWT 611 (SA30F) SRB WITH-OUT HEAT SHIELD 180.000 5.000
 (R1204) MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD 180.000 5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XM
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(C)MACH = 3.48

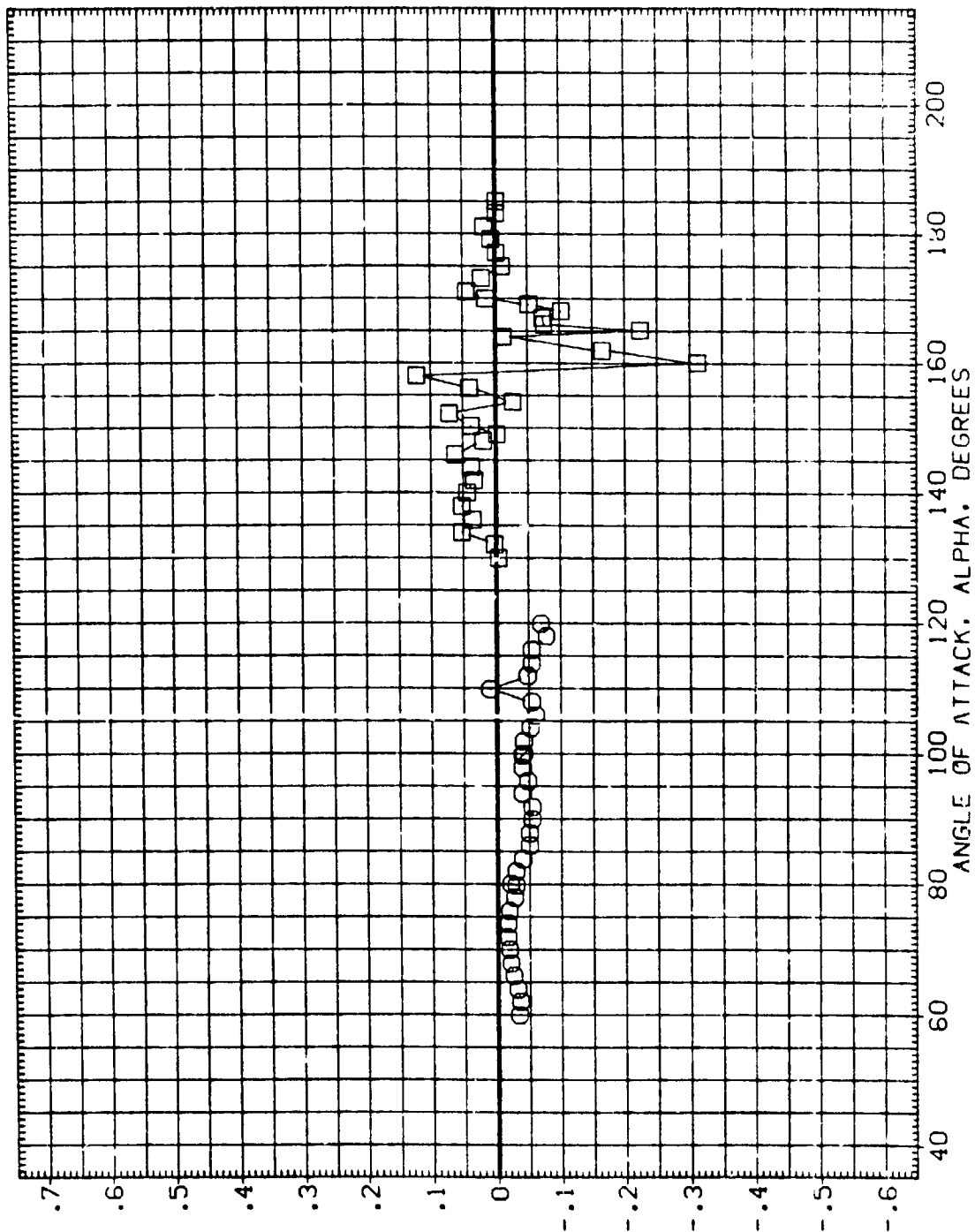
DATA SET SYMBOL (RIJ203) (RIJ204)

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)

(A)MACH = 1.97

PAGE 34

DATA SET SYMBOL
(RIJ203)
(RIJ204)

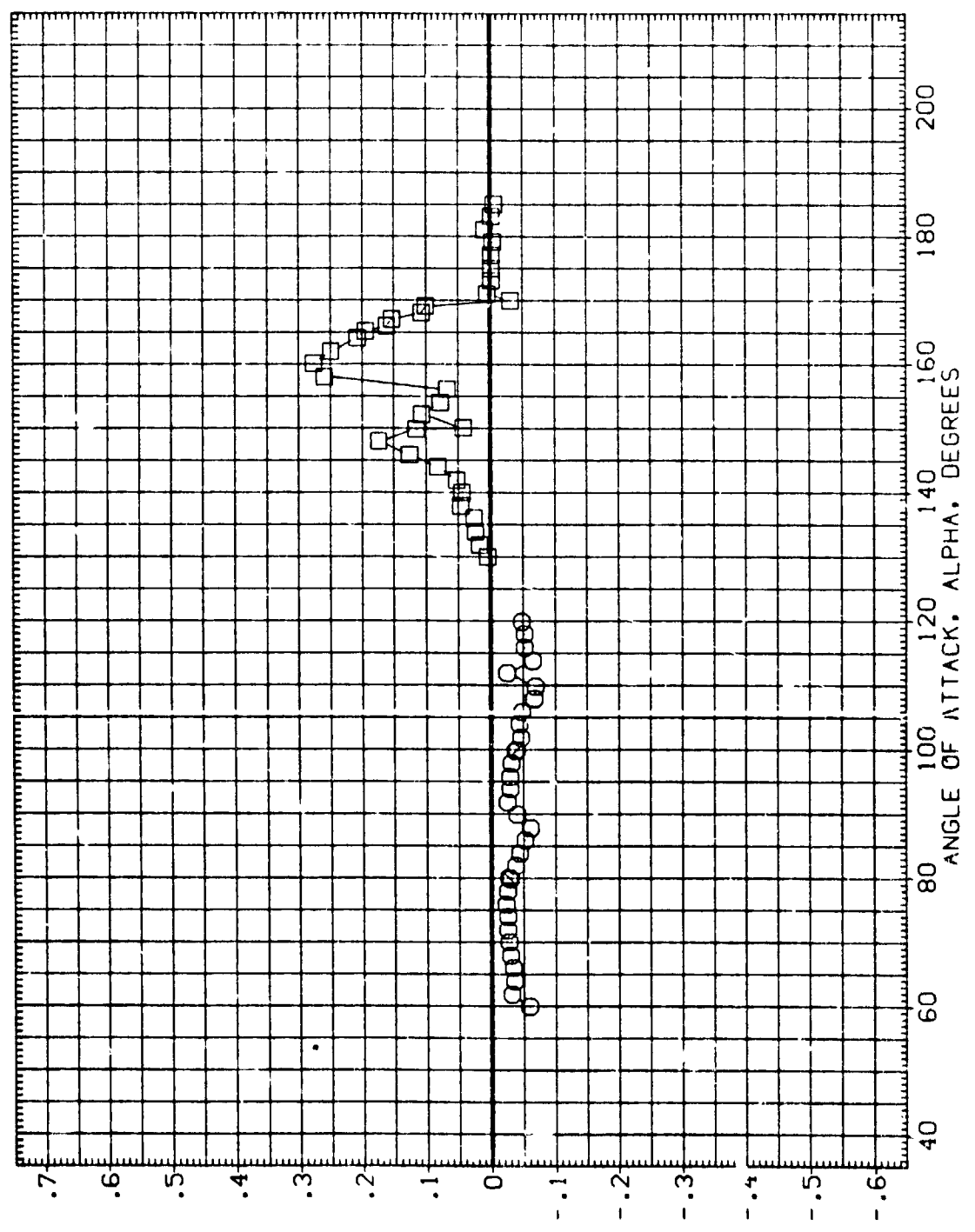
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)
(B)MACH = 2.74
PAGE 35

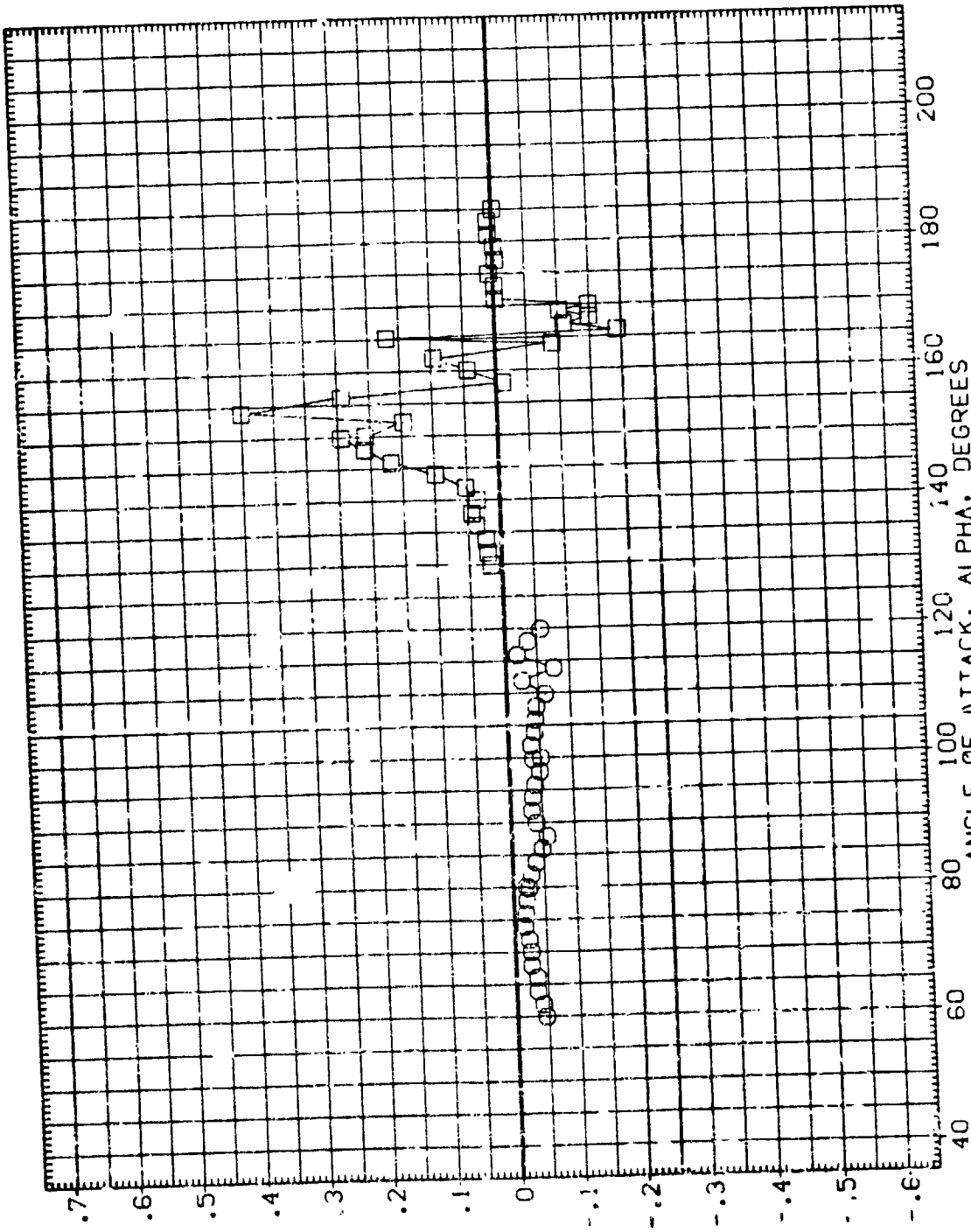
DATA SET SYMBOL
(RIJ203)
(RIJ204)

CONFIGURATION DESCRIPTION
MSFC 1WT 511 (SA30F) SRB WITHOUT HEAT SHIELD
MSFC 1WT 611 (SA30F) SRB WITHOUT HEAT SHIELD

PHI
180.000
180.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6403 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

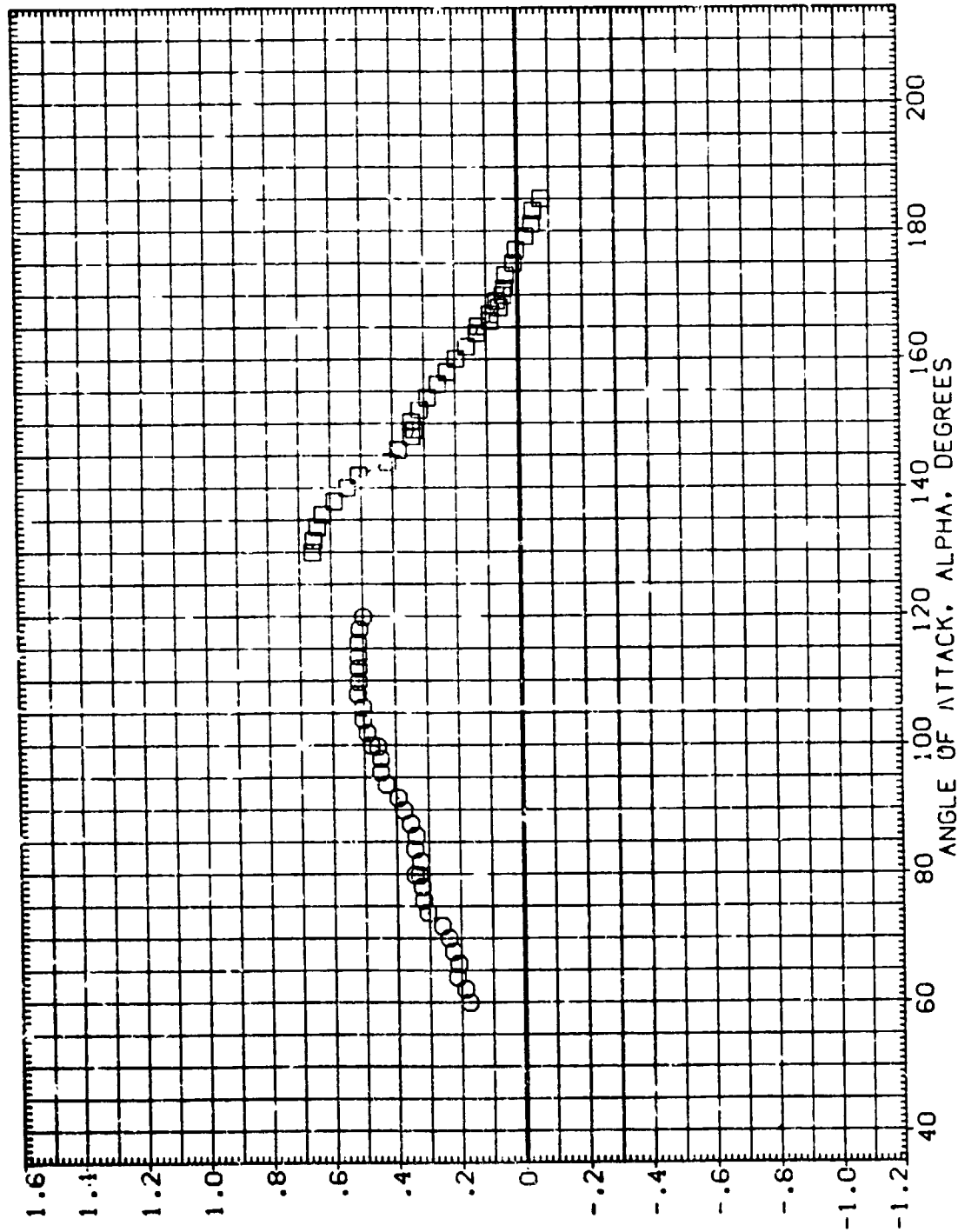
NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, WITHOUT HEAT SHIELD (GIMBAL=5.0)
(C₀MACH = 3.48

DATA SET SYMBOL: (R1J205) B
 CONFIGURATION DESCRIPTION: MSFC TWT 611 (S33UF) SRB - HEAT SHIELD ON SKIRT
 MSFC TWT 612 (S33OF) SRB - HEAT SHIELD ON SKIRT
 PHI: 190.000
 GIMBAL: .000

NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(A)MACH = 1.95

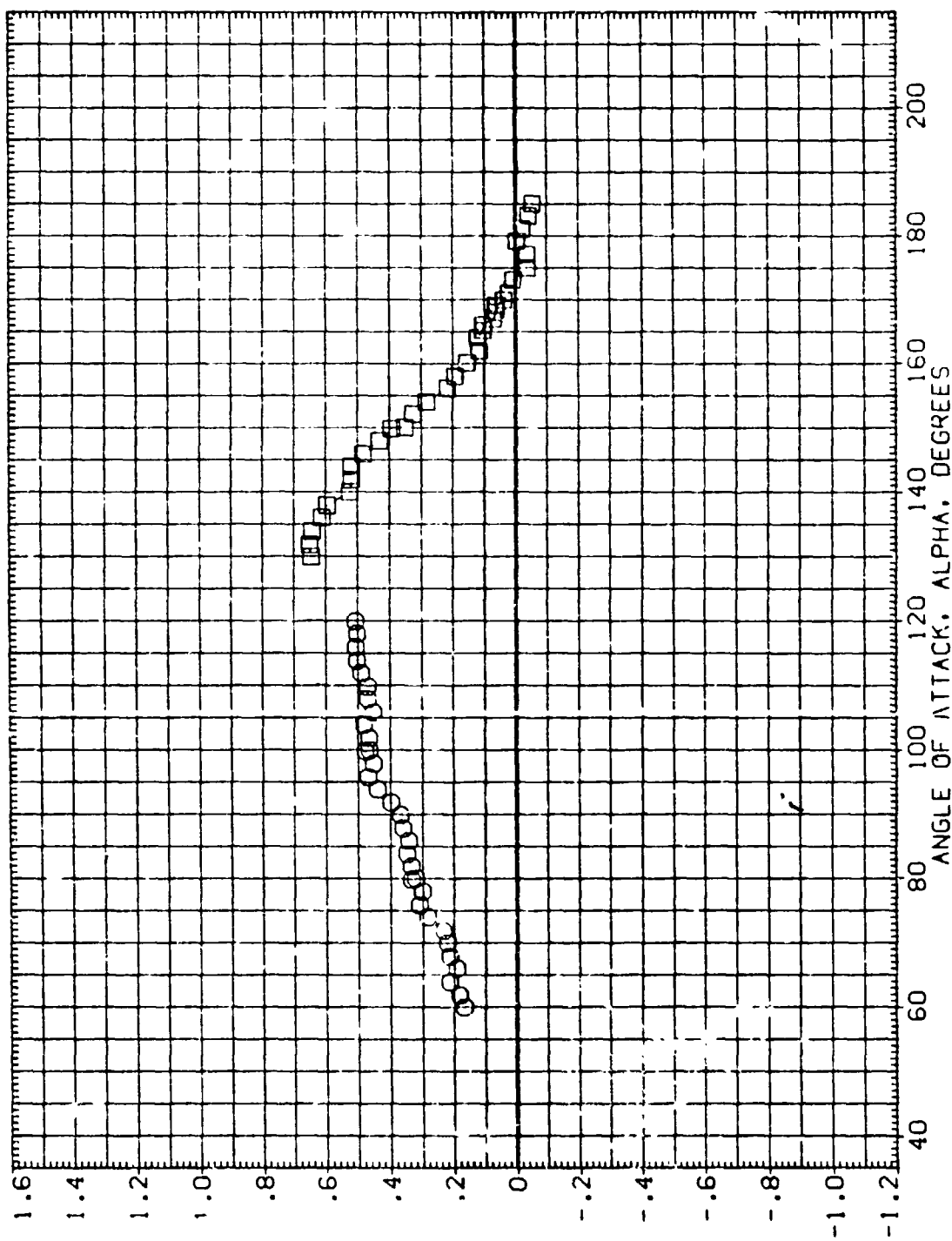
DATA SET SYMBOL
(R1J205)
(R1J206)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6300 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

ANGLE OF ATTACK, ALPHA, DEGREES

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(B)MACH = 2.74

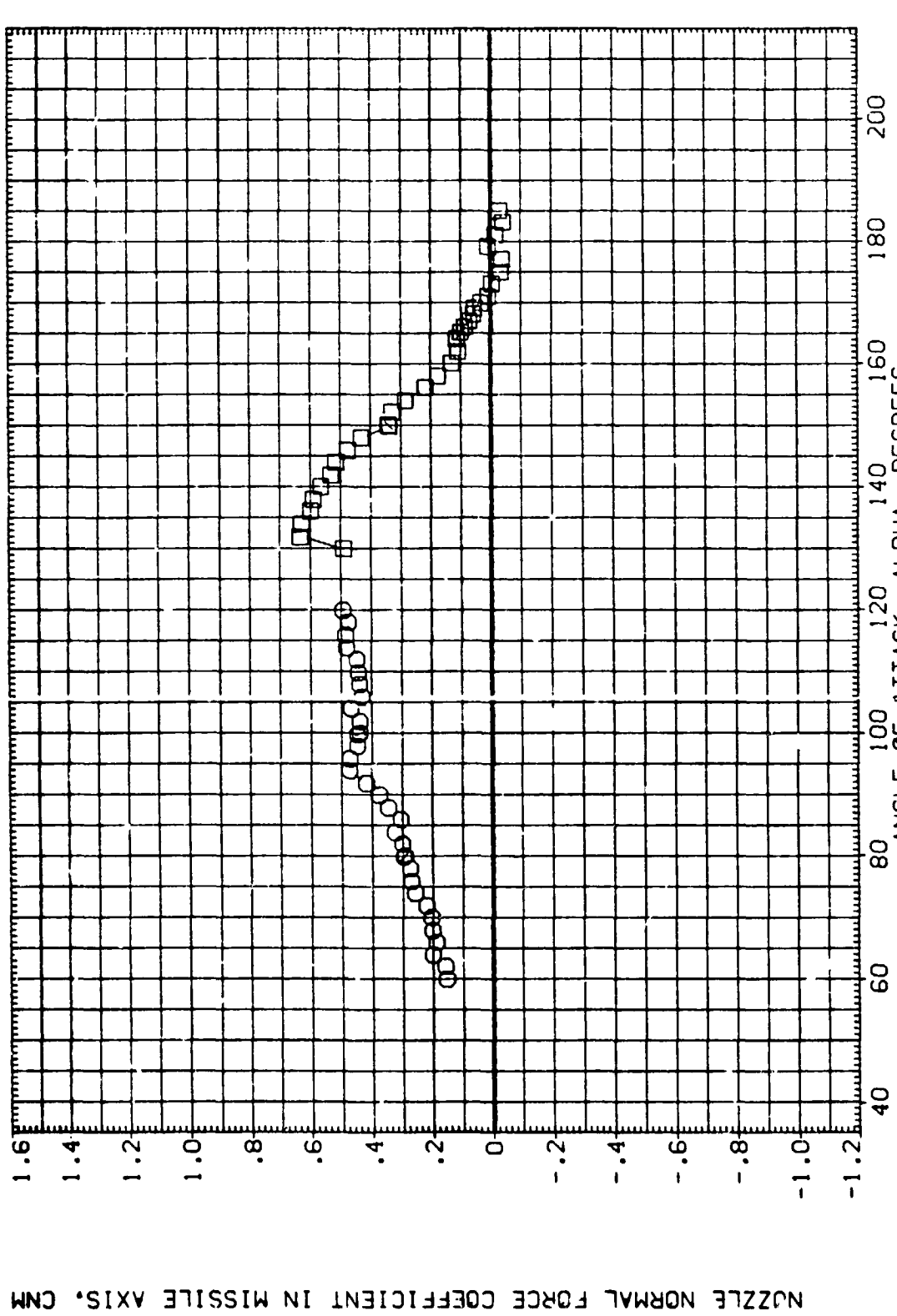
PAGE 38

DATA SET SYMBOL
 (RIJ205)
 (RIJ206)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

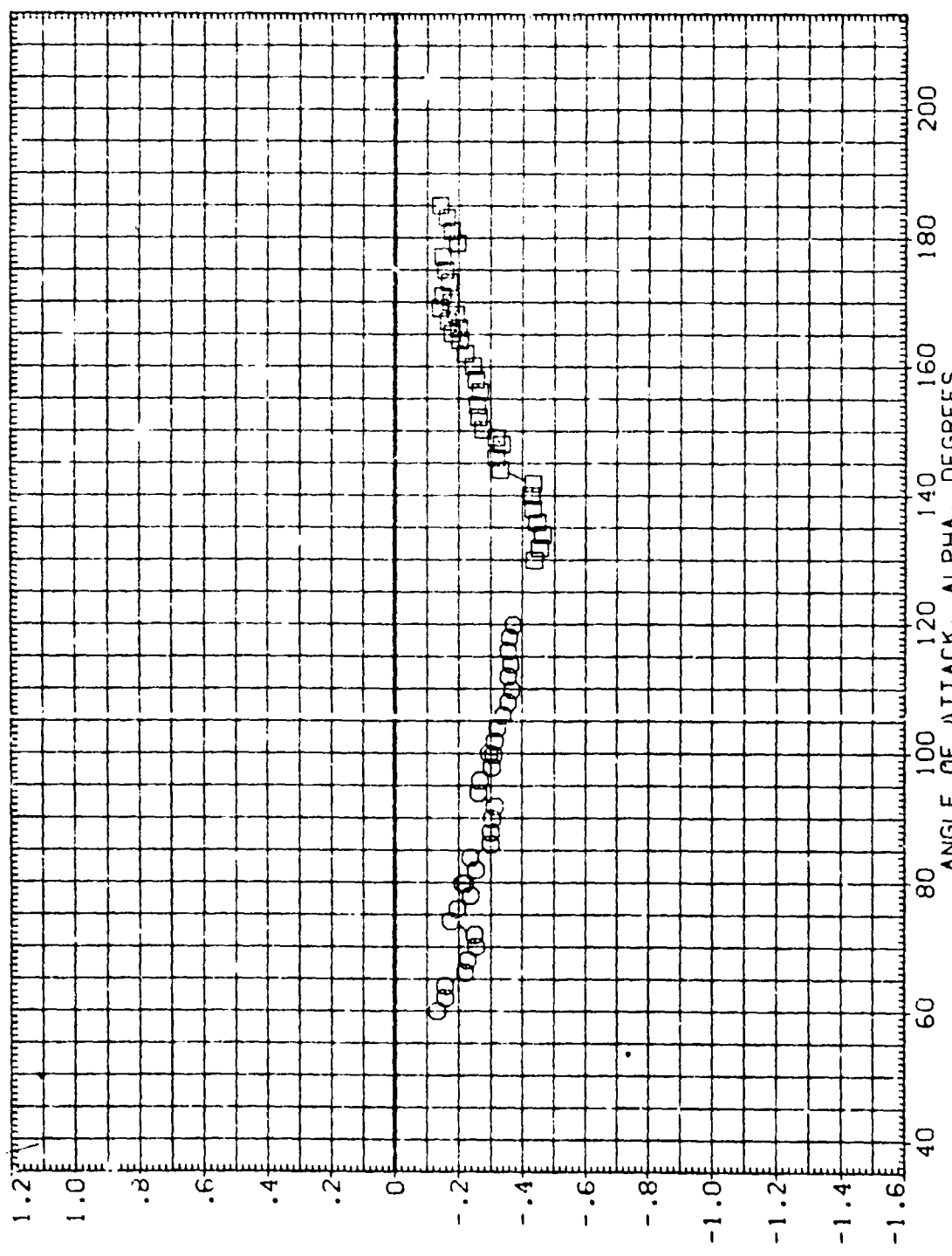
PHJ
 180.000
 180.000

GIMBAL
 .000
 .000



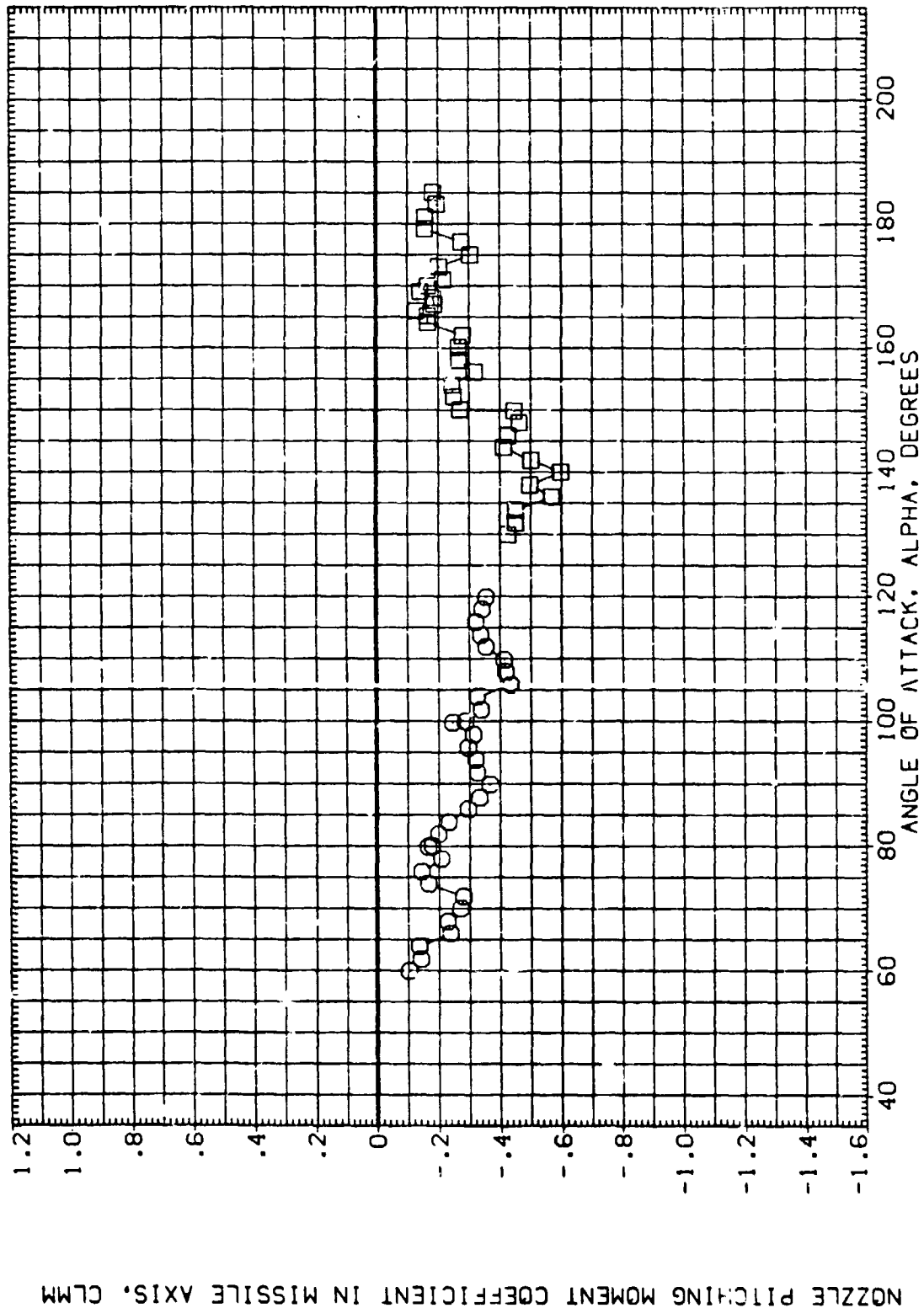
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ205)	MSFC TWI 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	SREF 115.6900 SQ.FT.
(RIJ206)	MSFC TWI 611 (SA30F) SPB - HEAT SHIELD ON SKIRT	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J205)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	150.000	.000	SREF 115.6900 SQ.FT.
(R1J206)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



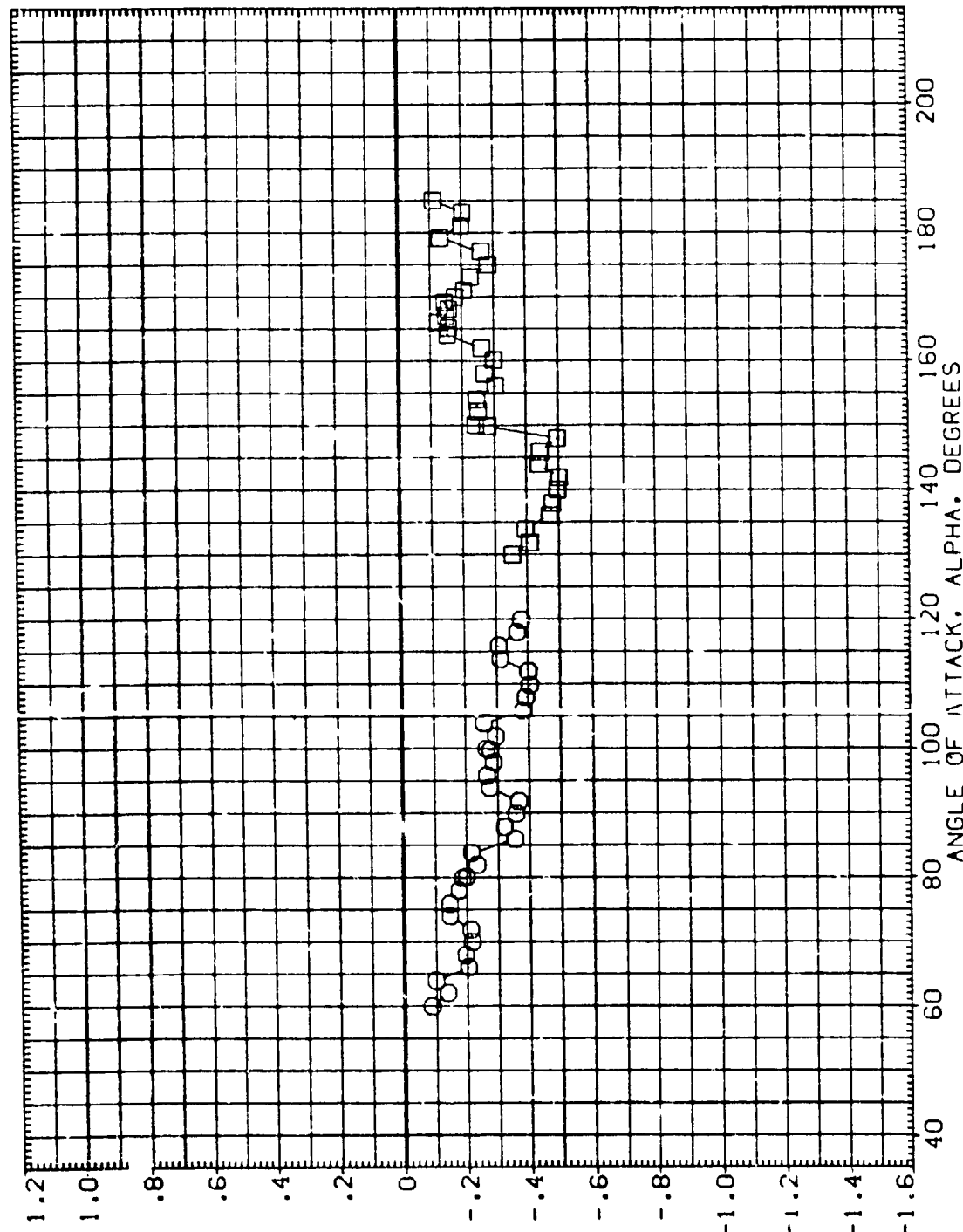
DATA SET SYMBOL (R1J205) (R1J206)

CONFIGURATION DESCRIPTION
 MSFC WT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 MSFC WT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI 180.000 180.000

GIMBAL .000 .000

REFERENCE INFORMATION
 SREF 115.6900 SO.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

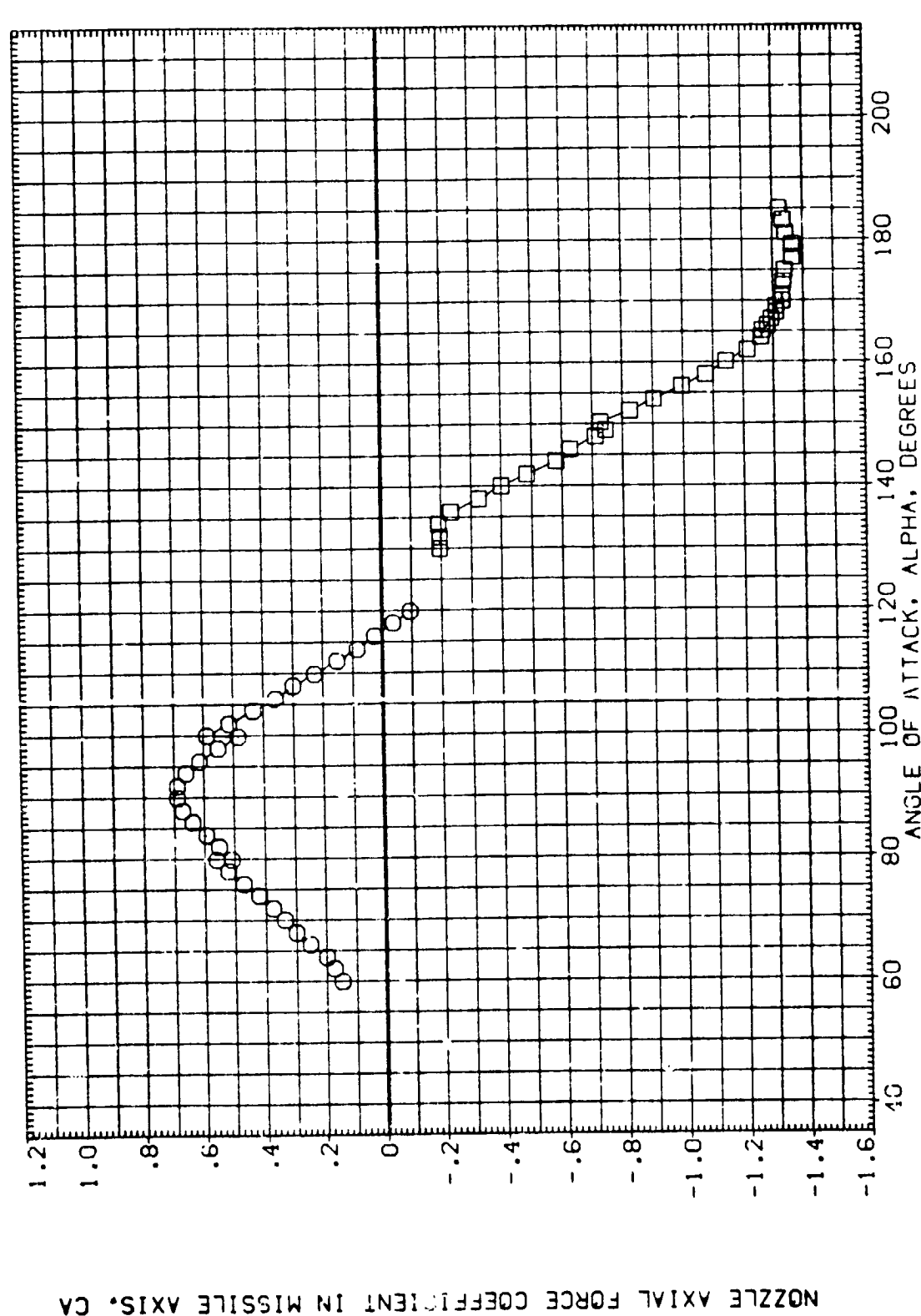
DATA SET SYMBOL
(R1J205)
(R1J206)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
IREF 145.6400 IN.
JREF 145.6400 IN.
XREF 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

PHI
180.000
180.000

GIMBAL
.000
.000



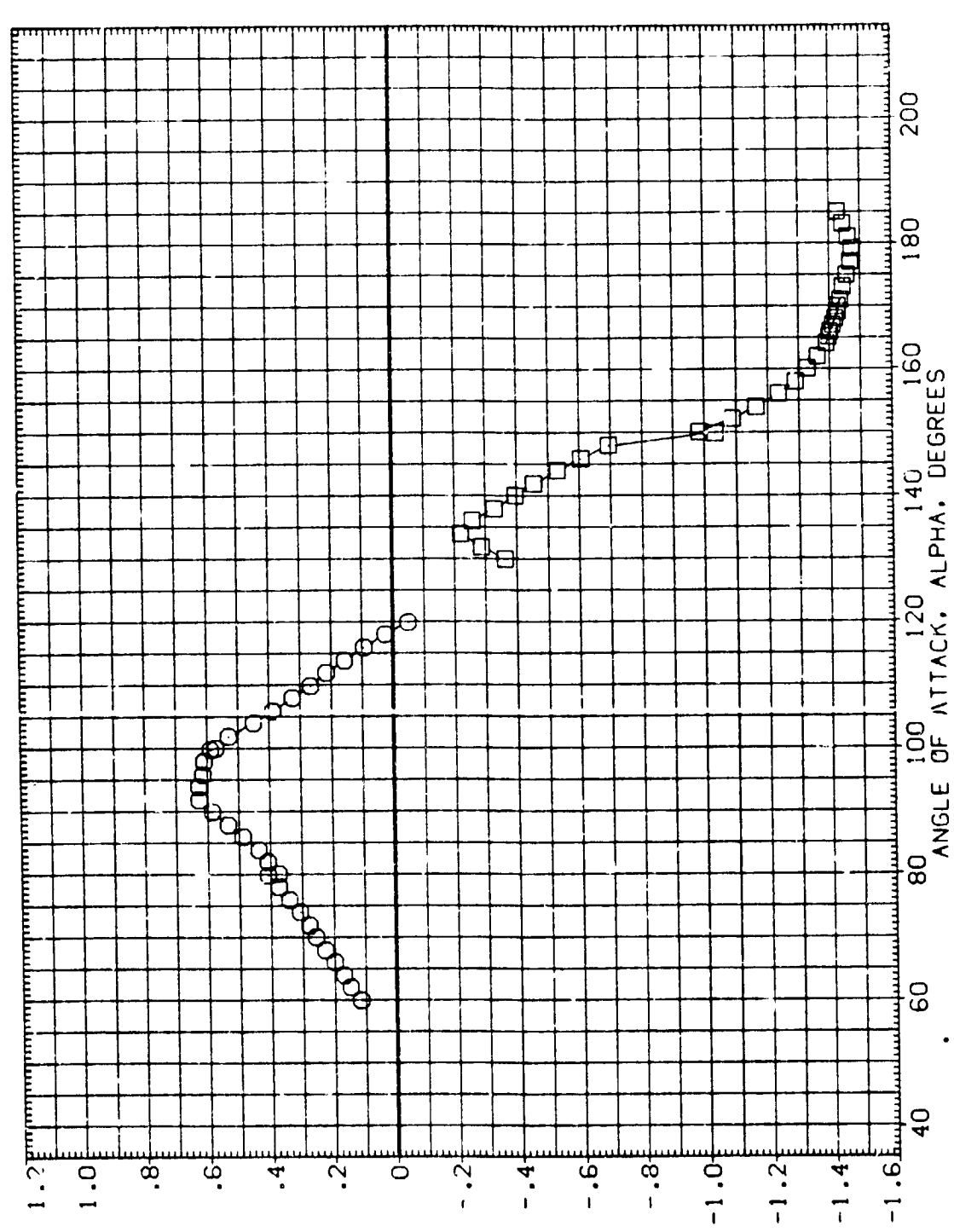
DATA SET SYMBOL
(R1J205)
(R1J206)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XHRP 114.1950 IN. XN
YHRP .0000 IN. YN
ZHRP .0000 IN. ZN
SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(C)MACH = 3.48

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DATA SET SYMBOL
(R1J205)
(R1J206)

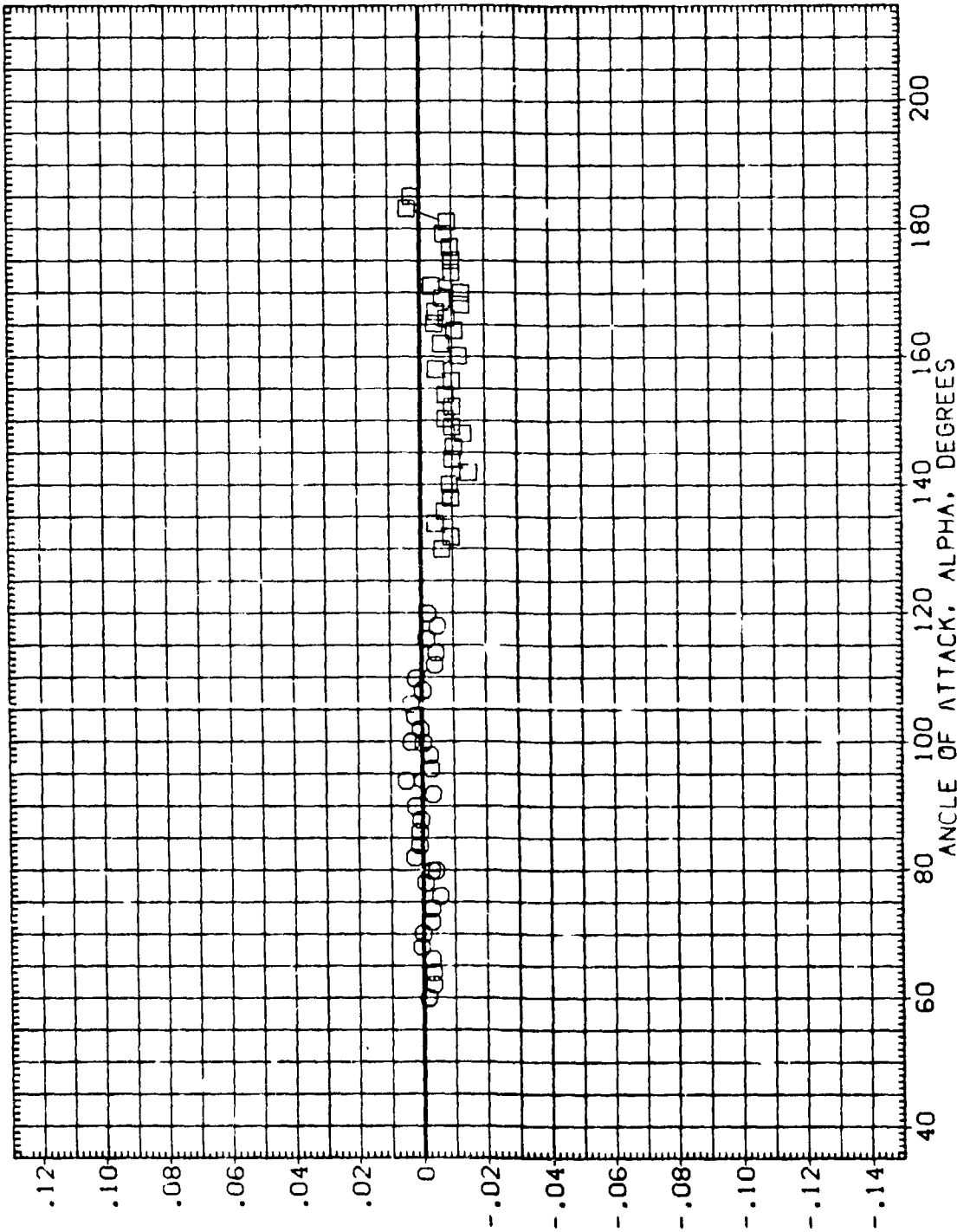
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL

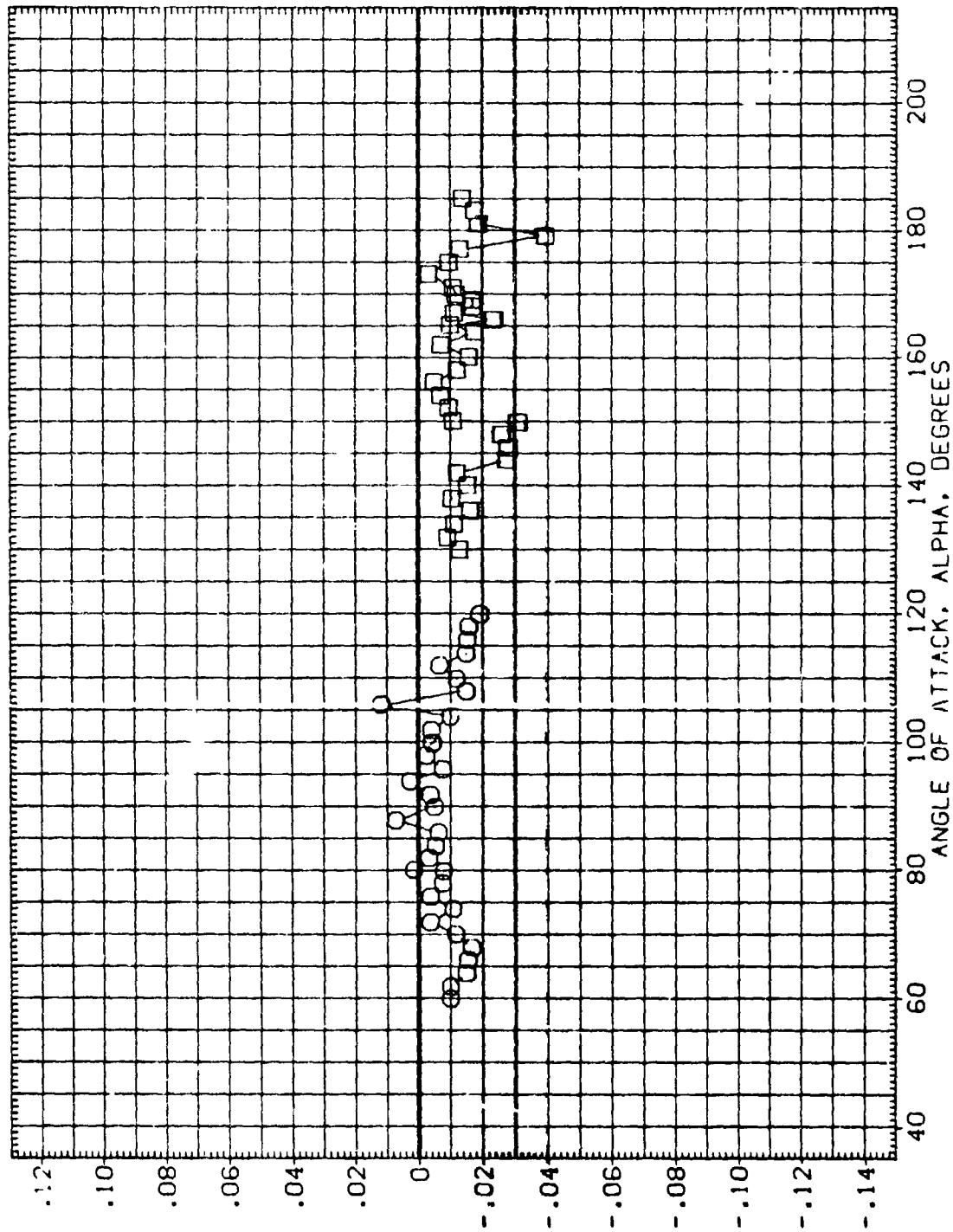


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(A)MACH = 1.95

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ205)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	SREF 115.6900 SO.FT.
(RIJ206)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

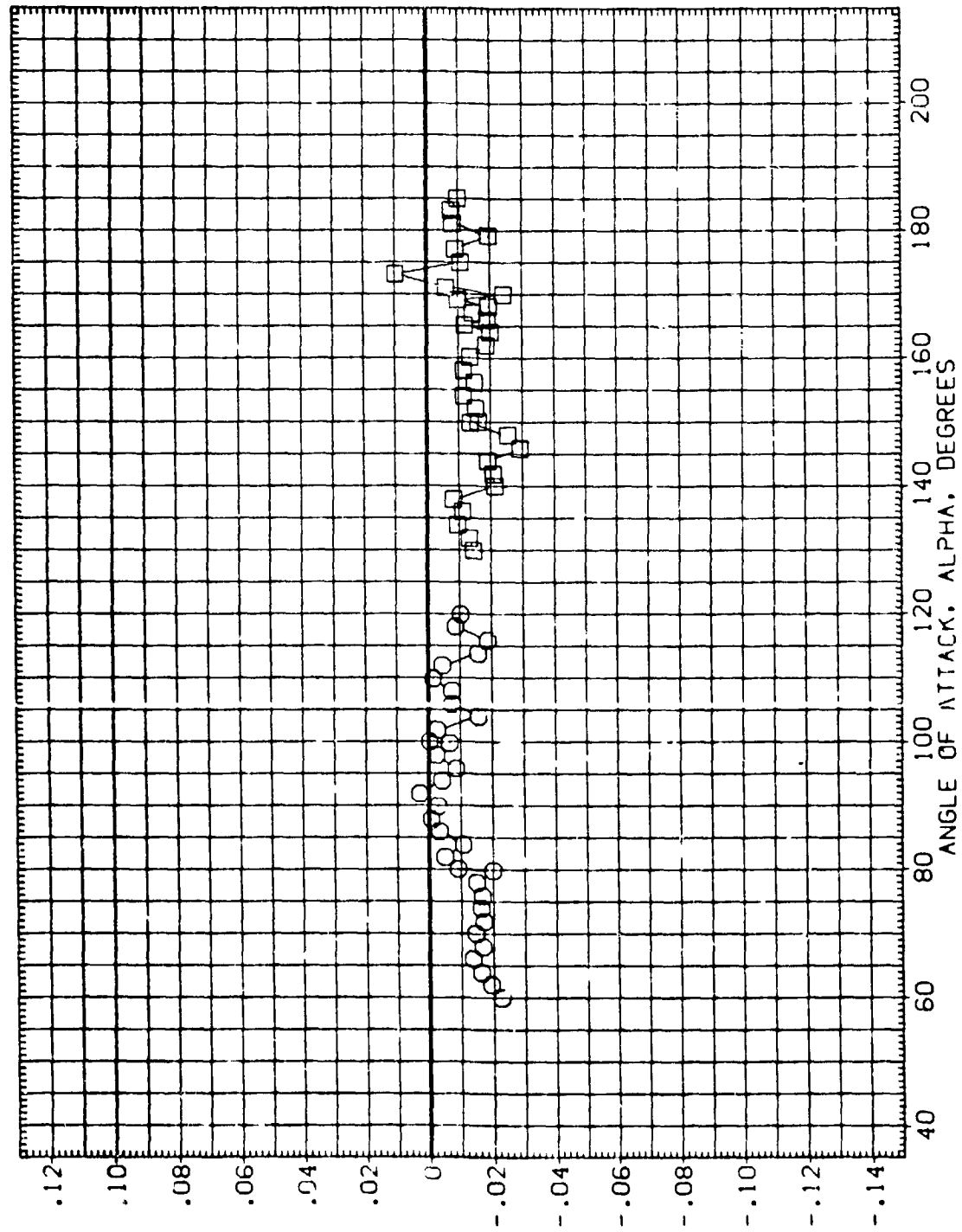
(B)MACH = 2.74

PAGE 47

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL
(R1J205)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000
(R1J206)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000

REFERENCE INFORMATION	
SREF	115.6900 SQ.FT.
LREF	145.6400 IN.
BREF	145.6400 IN.
XMRP	114.1950 IN.
YMRP	.0000 IN.
ZMRP	.0000 IN.
SCALE	.0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE. HEAT SHIELD ON SKIRT (GIMBAL=0.0)

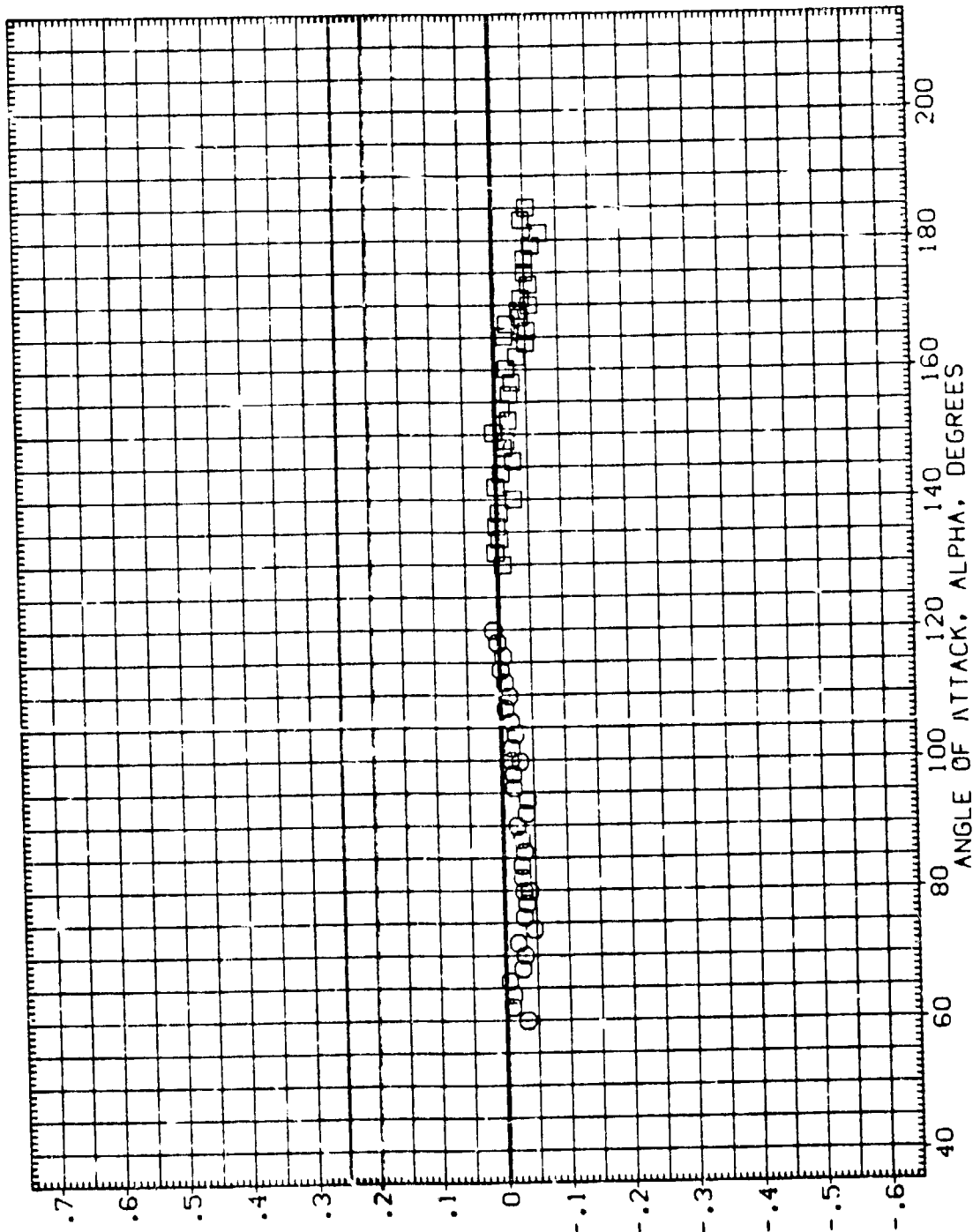
(CJMACH = 3.48) PAGE 48

DATA SET SYMBOL (R1J205) B
 CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI 180.000
 GIMBAL .000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0050 IN. ZN
 SCALE .0055

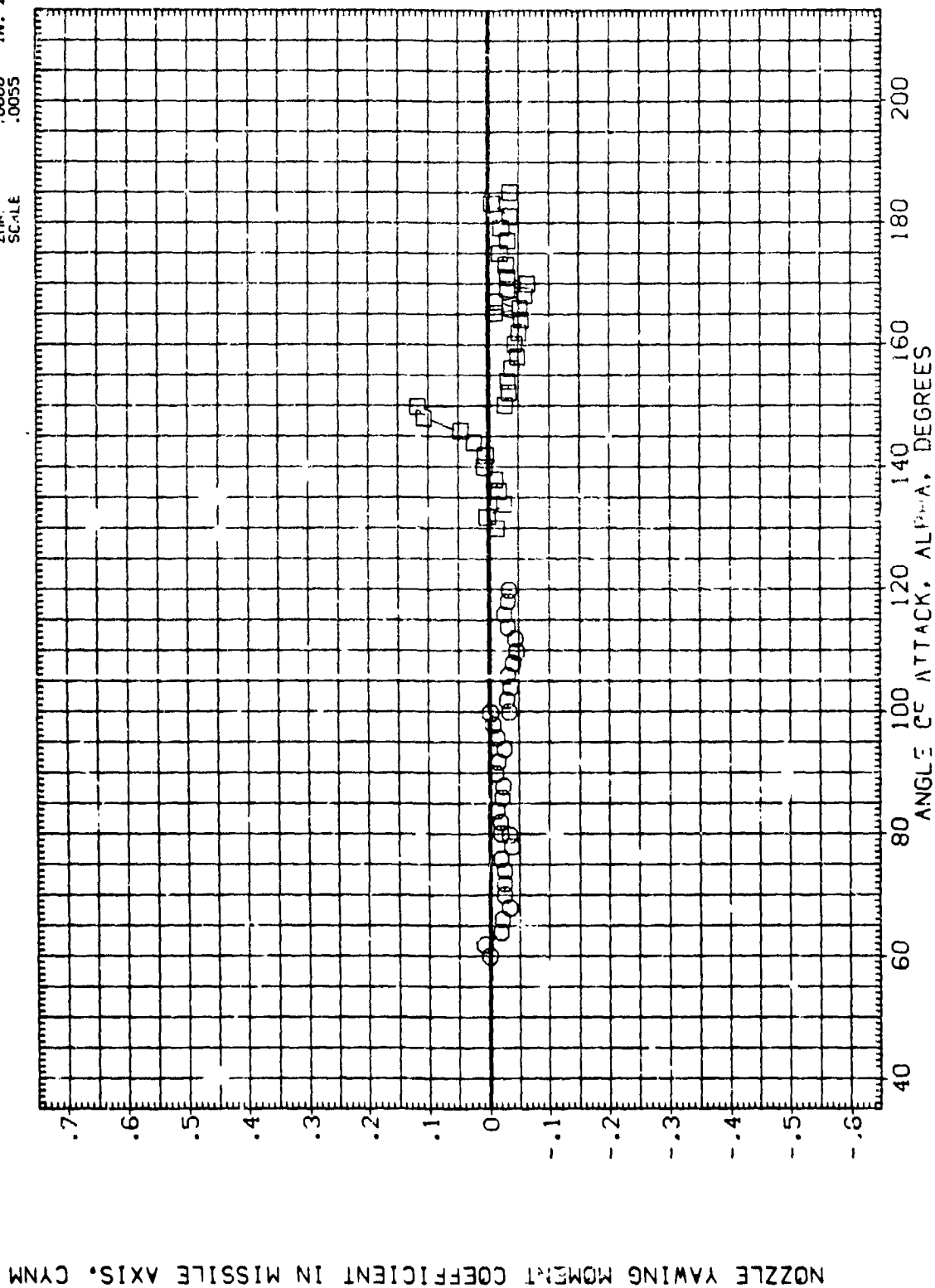
NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS. CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(A)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J205)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	SREF 115.6900 SQ.FT.
(R1J206)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

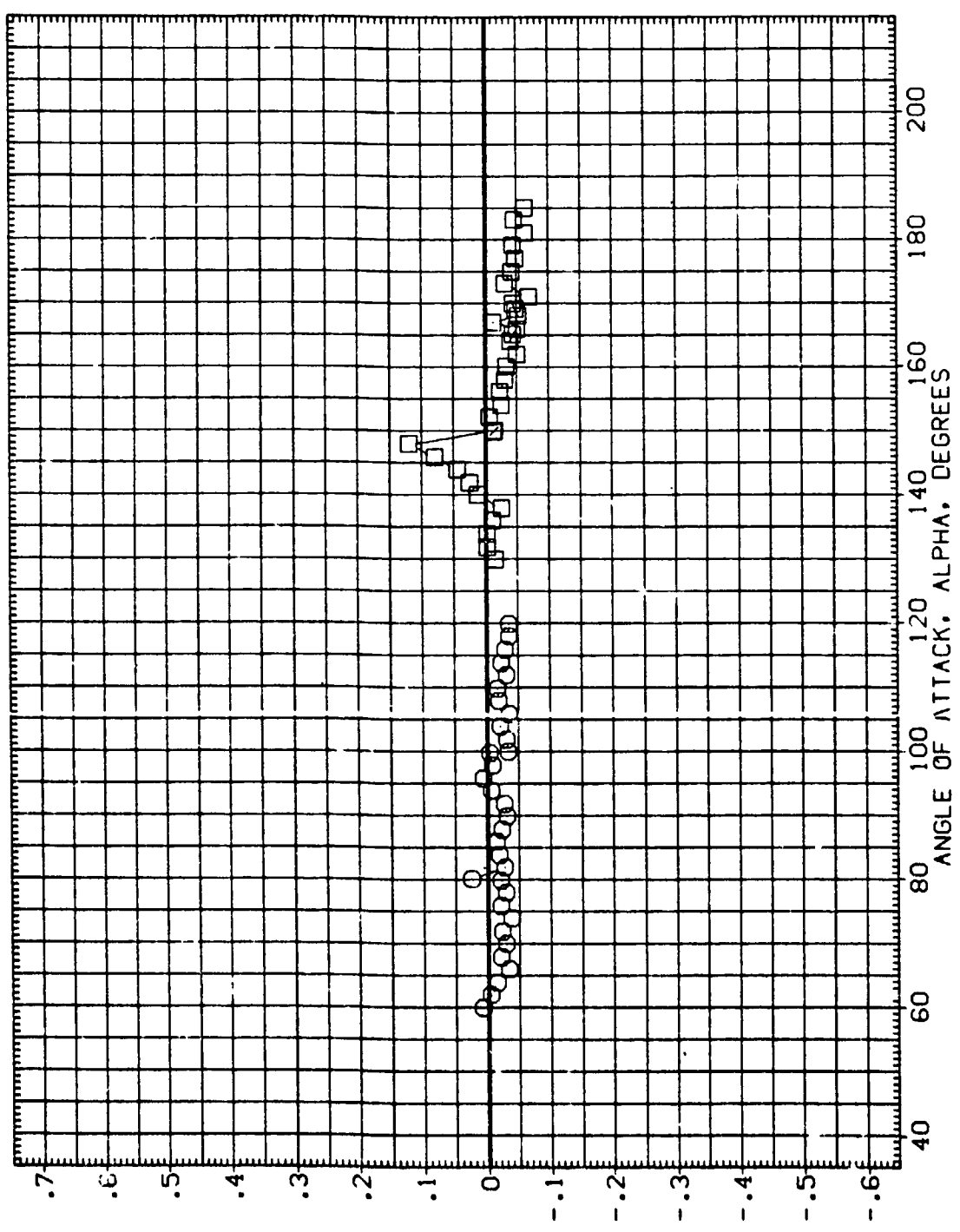
(B)MACH = 2.74

PAGE 50

7 2

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ205)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	SREF 115.6900 SO.FT.
(RIJ206)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055

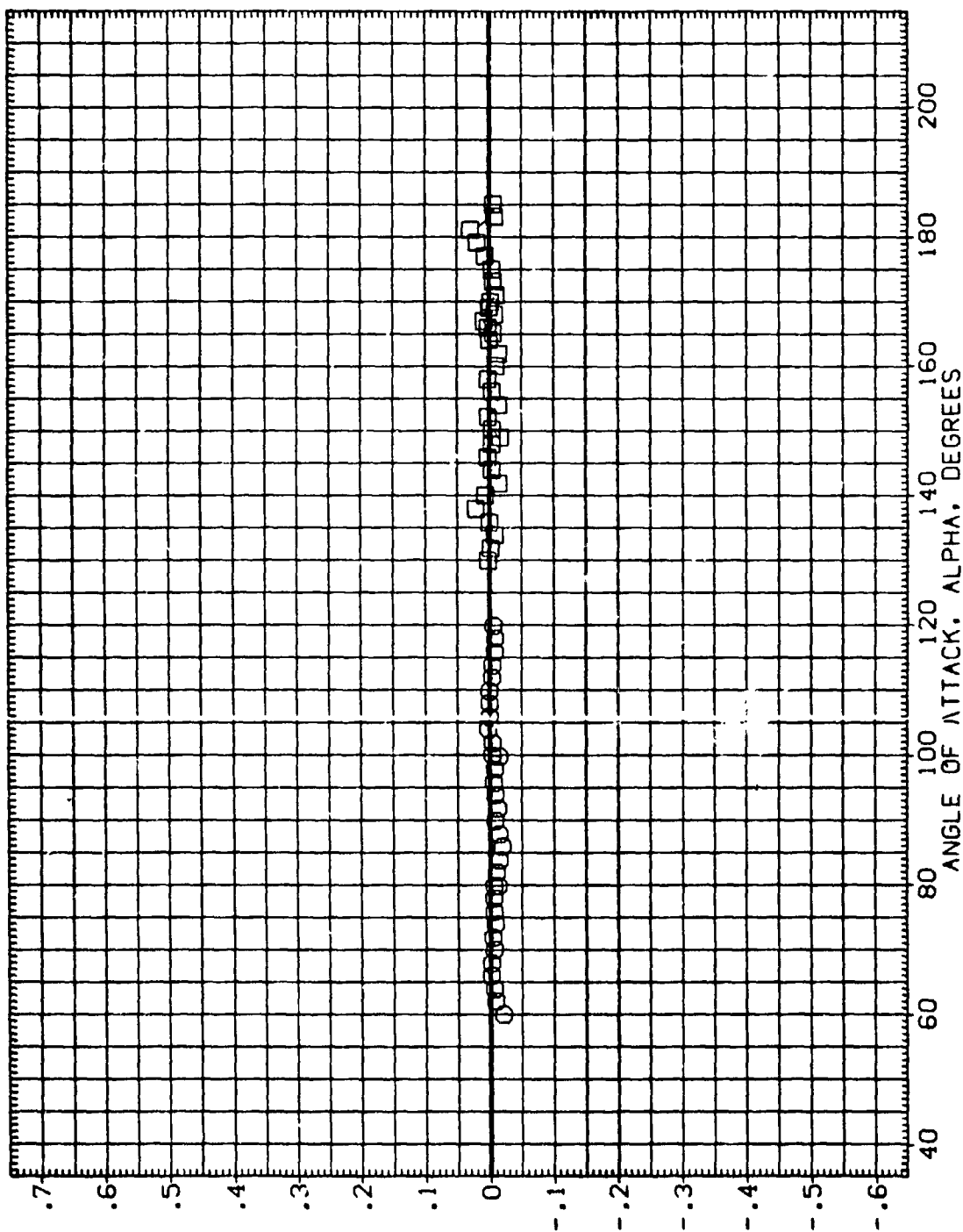
NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(C)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ205)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	SREF 115.6900 SQ.FT.
(RIJ206)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. YN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(MACH = 1.95) PAGE 52

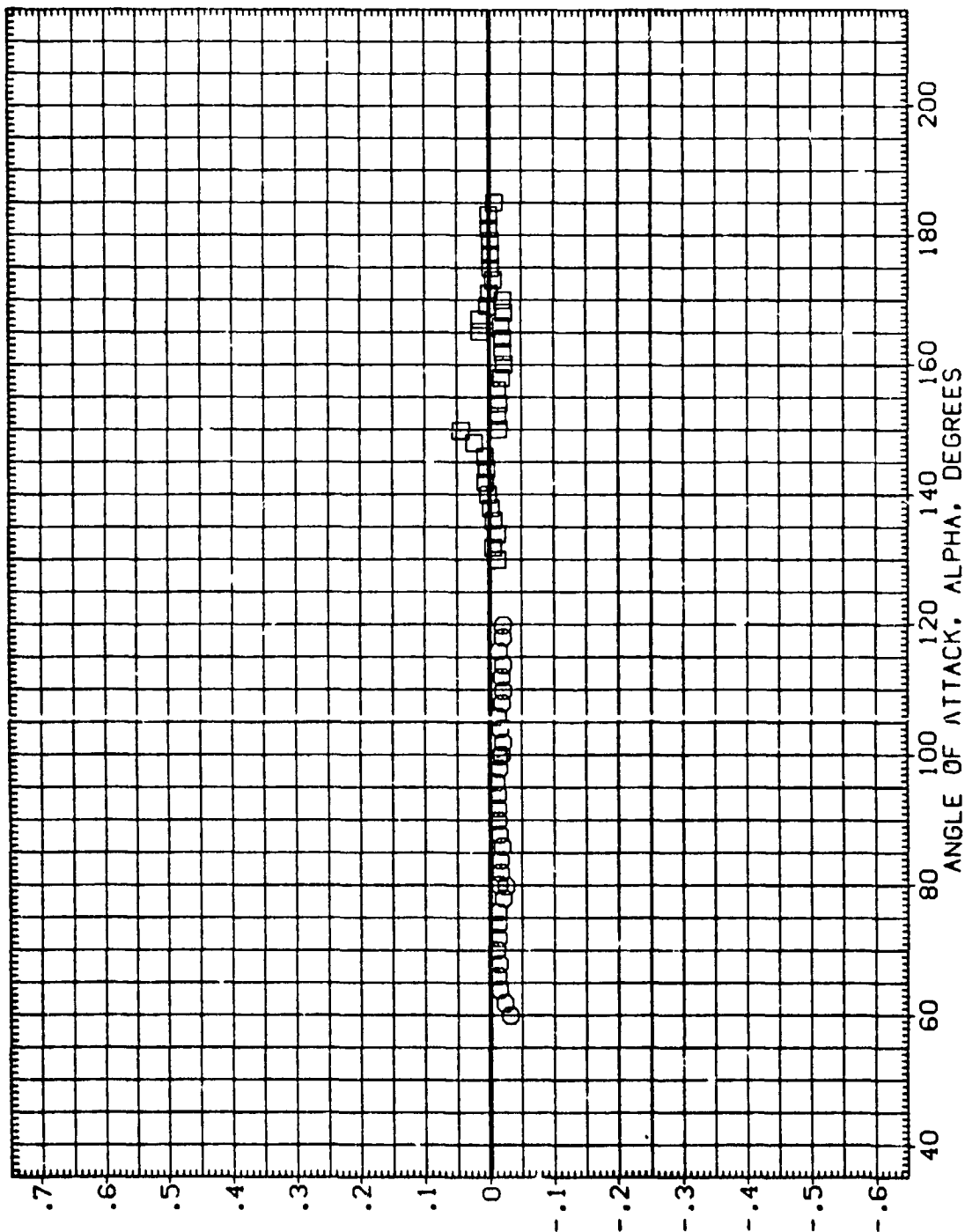
DATA SET SYMBOL (R1J205)
(R1J206)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI 180.000
180.000

GIMBAL .000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0033



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

ANGLE OF ATTACK, ALPHA, DEGREES

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

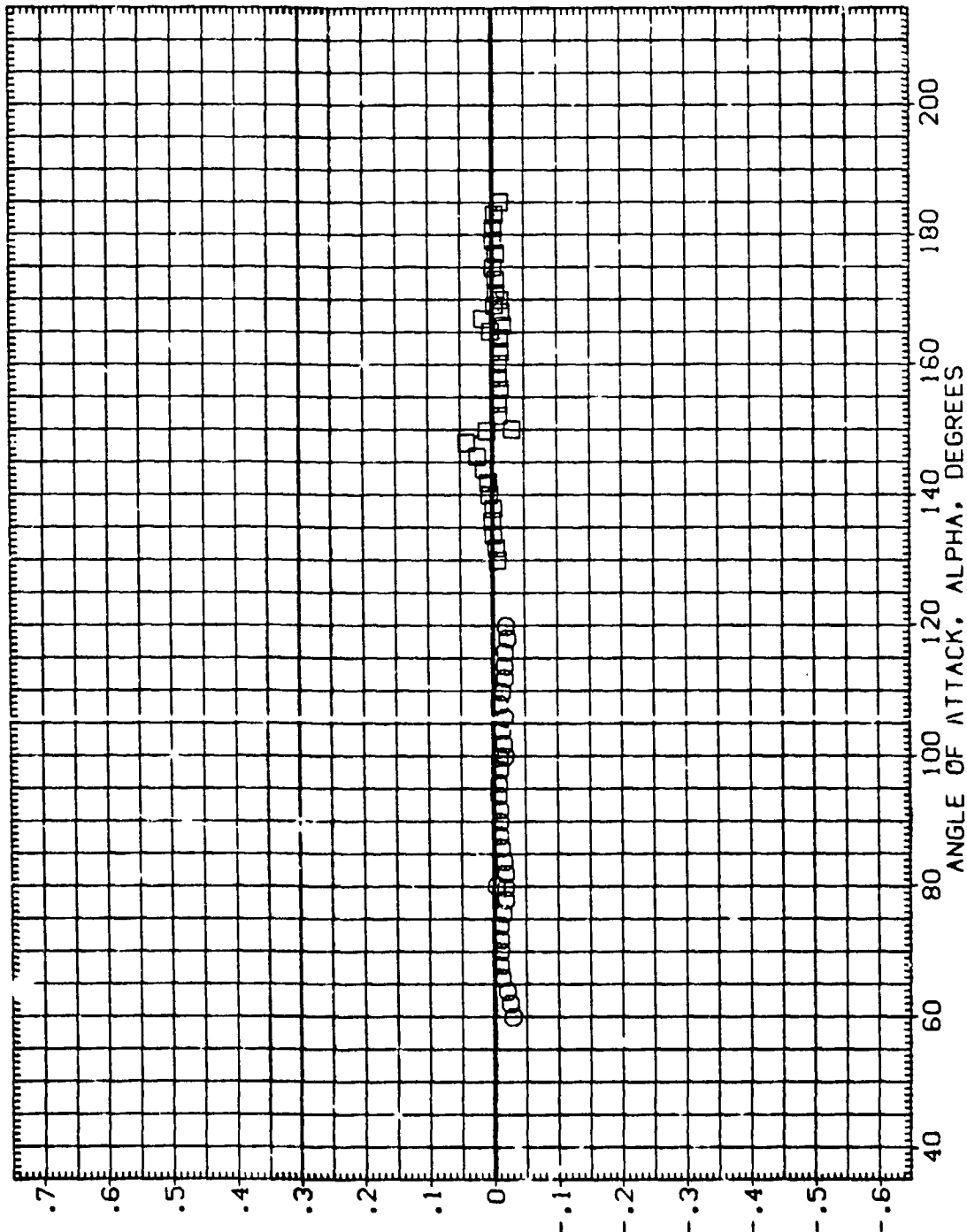
(B)MACH = 2.74

PAGE 53

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH1 GIMBAL

(RIJ205) MSFC TWI 611 (SA30F) SRB - HEAT SHIELD ON SKIRT 180.000 .000

(RIJ206) MSFC TWI 611 (SA30F) SRB - HEAT SHIELD ON SKIRT 180.000 .000



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=0.0)

(C)MACH = 3.48

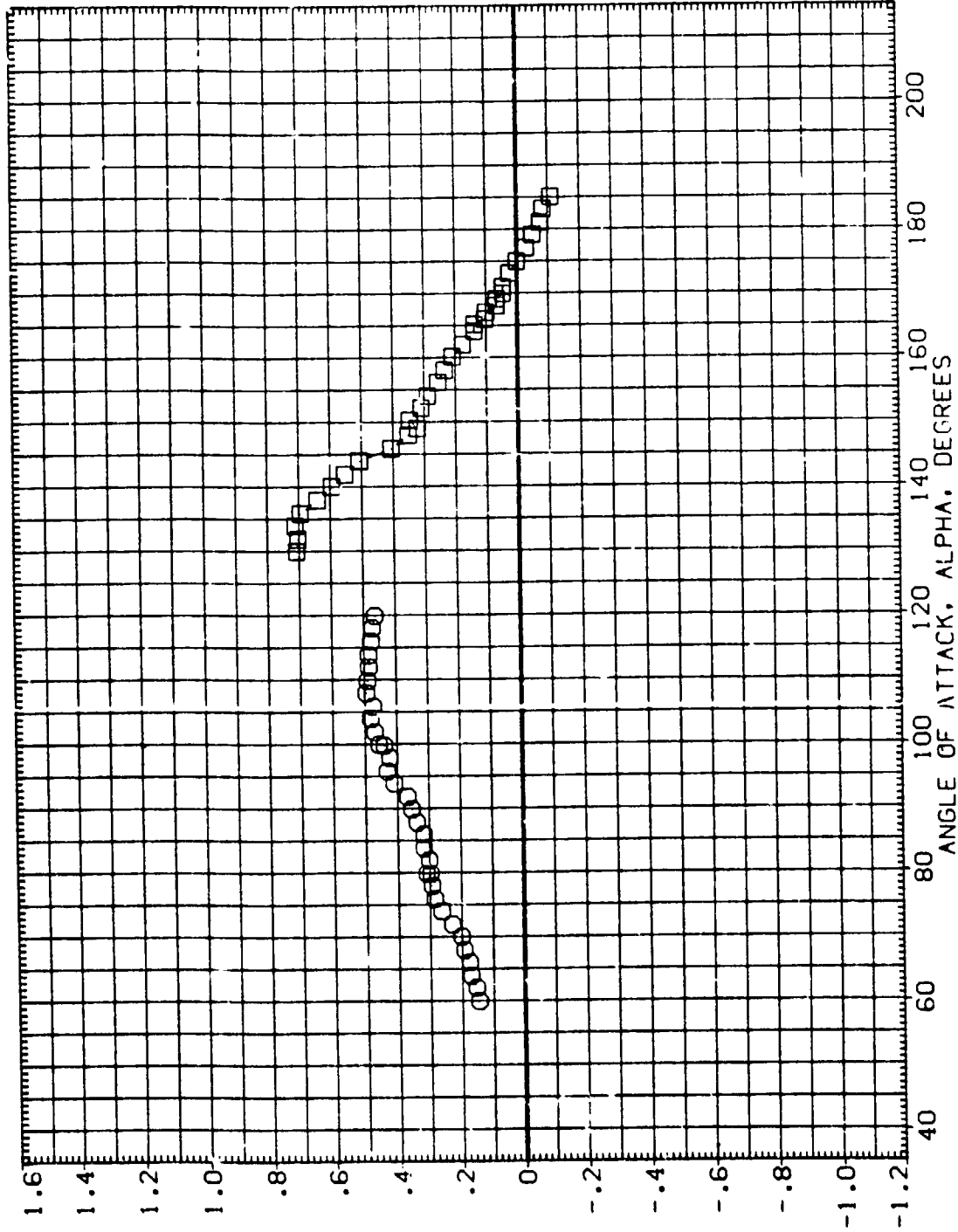
PAGE 54

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(R1J207) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT 180.000 2.500



(R1J208) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT 180.000 2.500

NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM



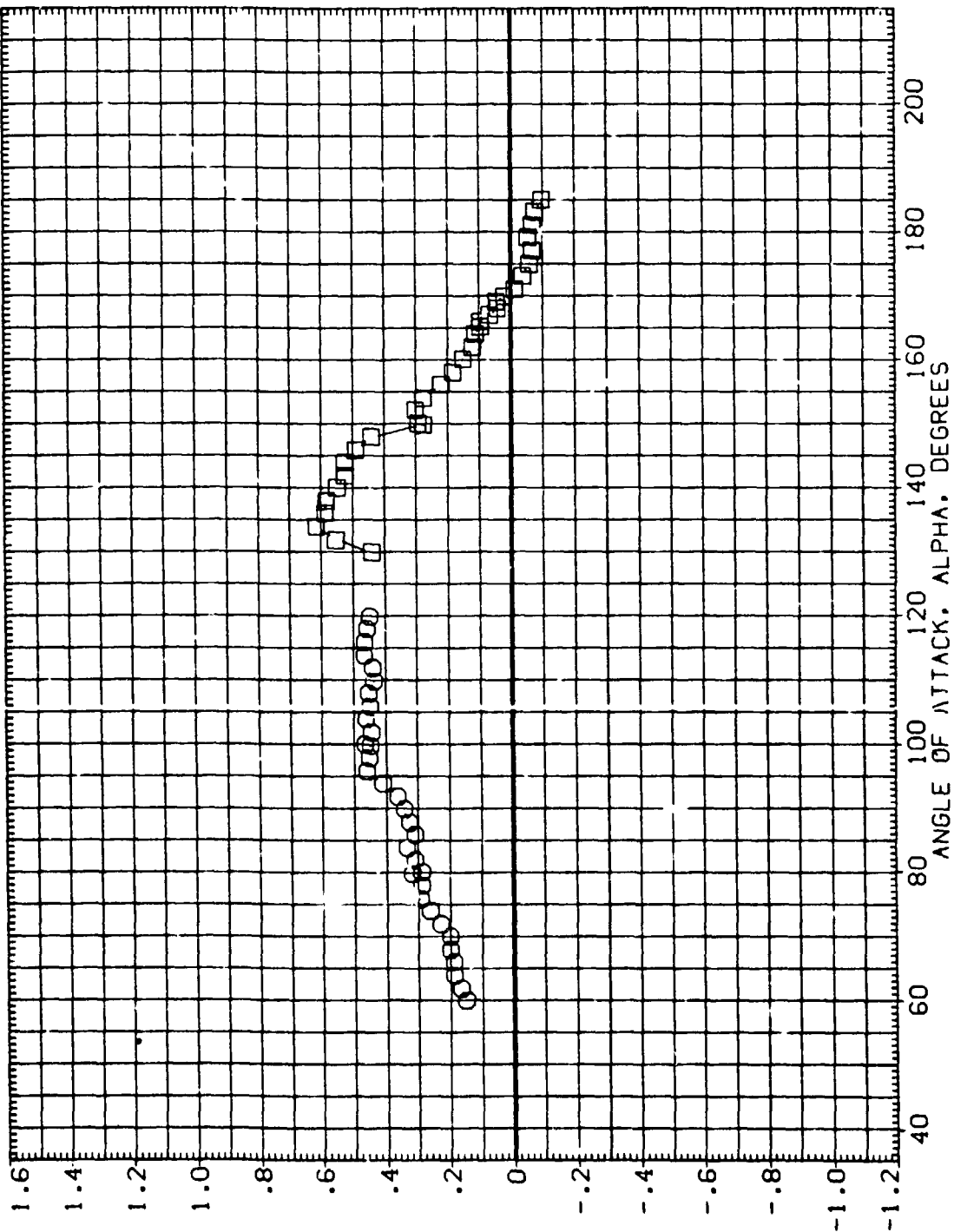
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(A)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RIJ207)  MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 (RIJ208)  MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI GIMBAL
 180.000 2.500
 180.000 2.500

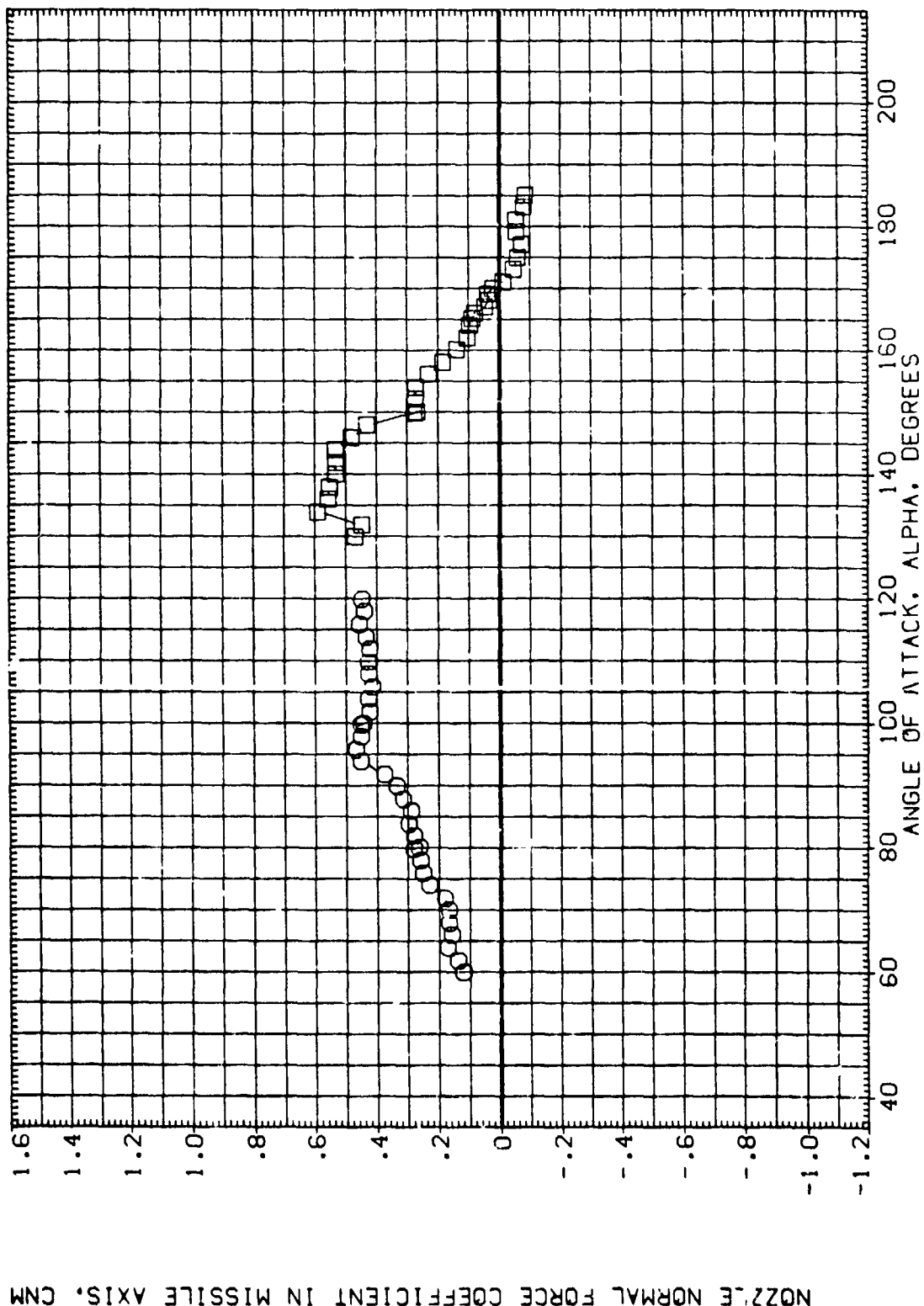
REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)
 (B)MACH = 2.74
 PAGE 56

NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J207)	MSFC TWT 611 (SA30F) SR8 - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SQ.FT.
(R1J208)	MSFC TWT 611 (SA30F) SR8 - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				YMRP 114.1950 IN. XN
				ZMRP .0000 IN. YN
				SCALE .0055 IN. ZN

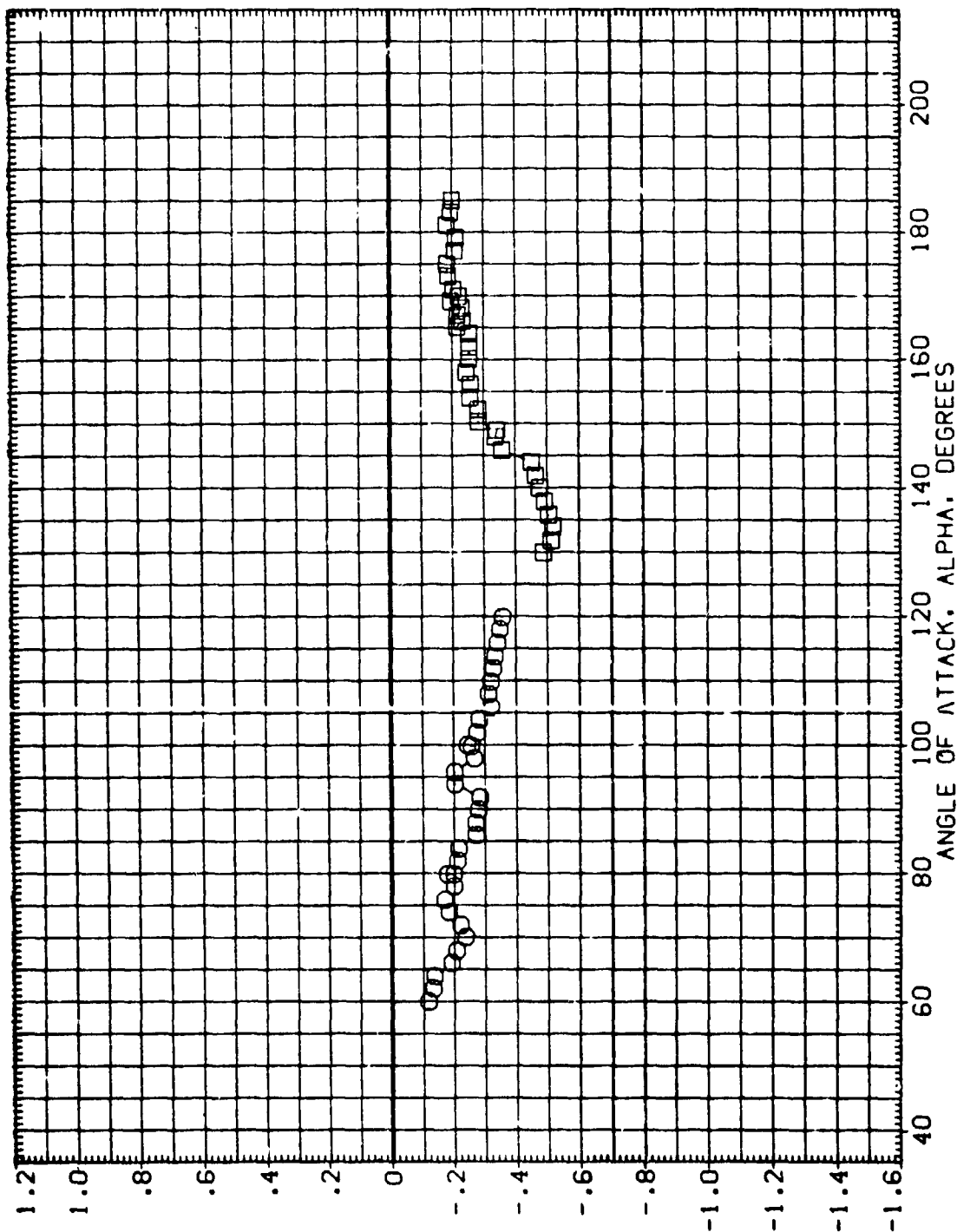


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(C)MACH = 3.48

PAGE 57

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J207)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SQ.FT.
(R1J208)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				YMRP 114.1850 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



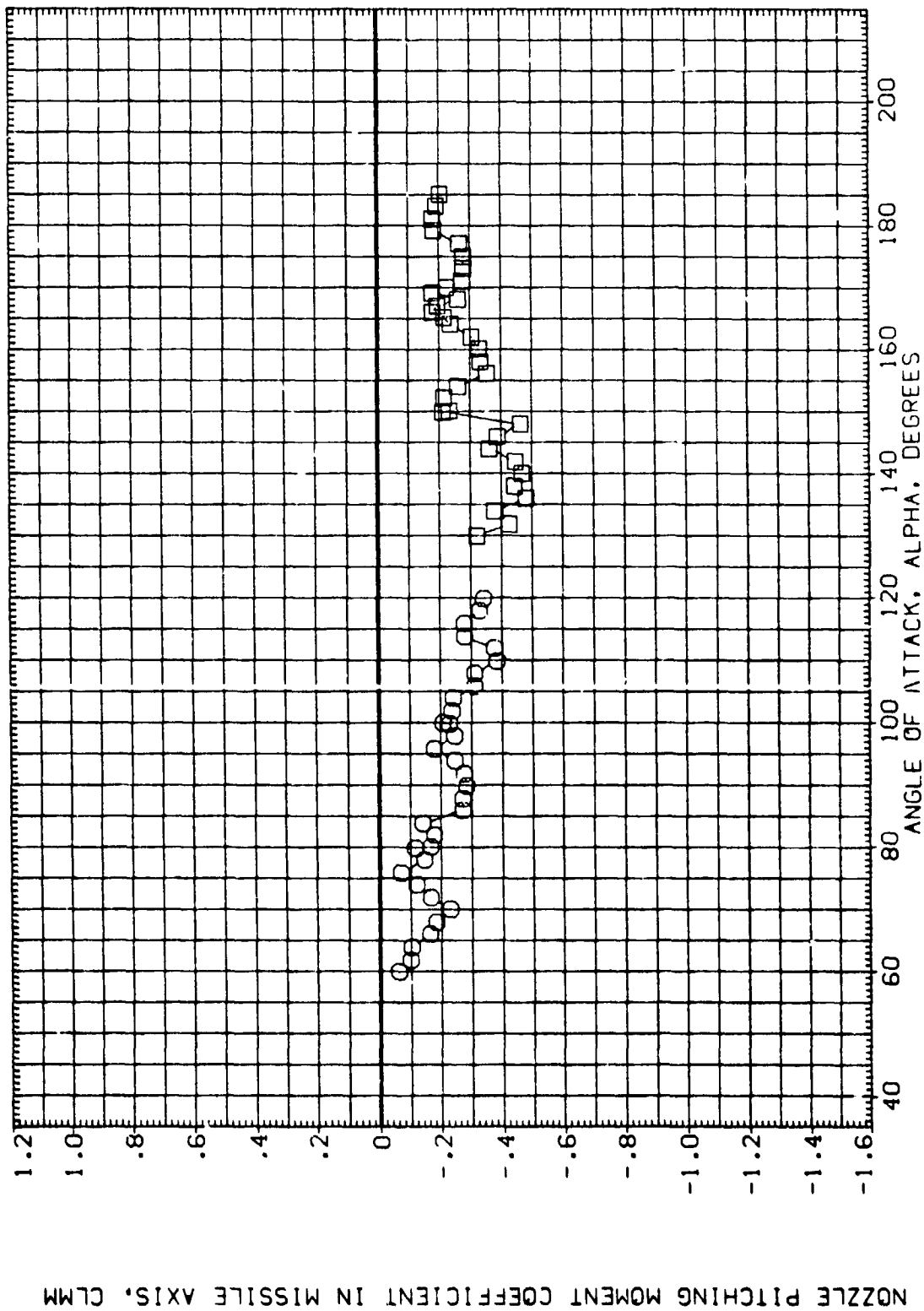
NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(A)MACH = 1.96

PAGE 58

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J207)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SO.FT.
(R1J208)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



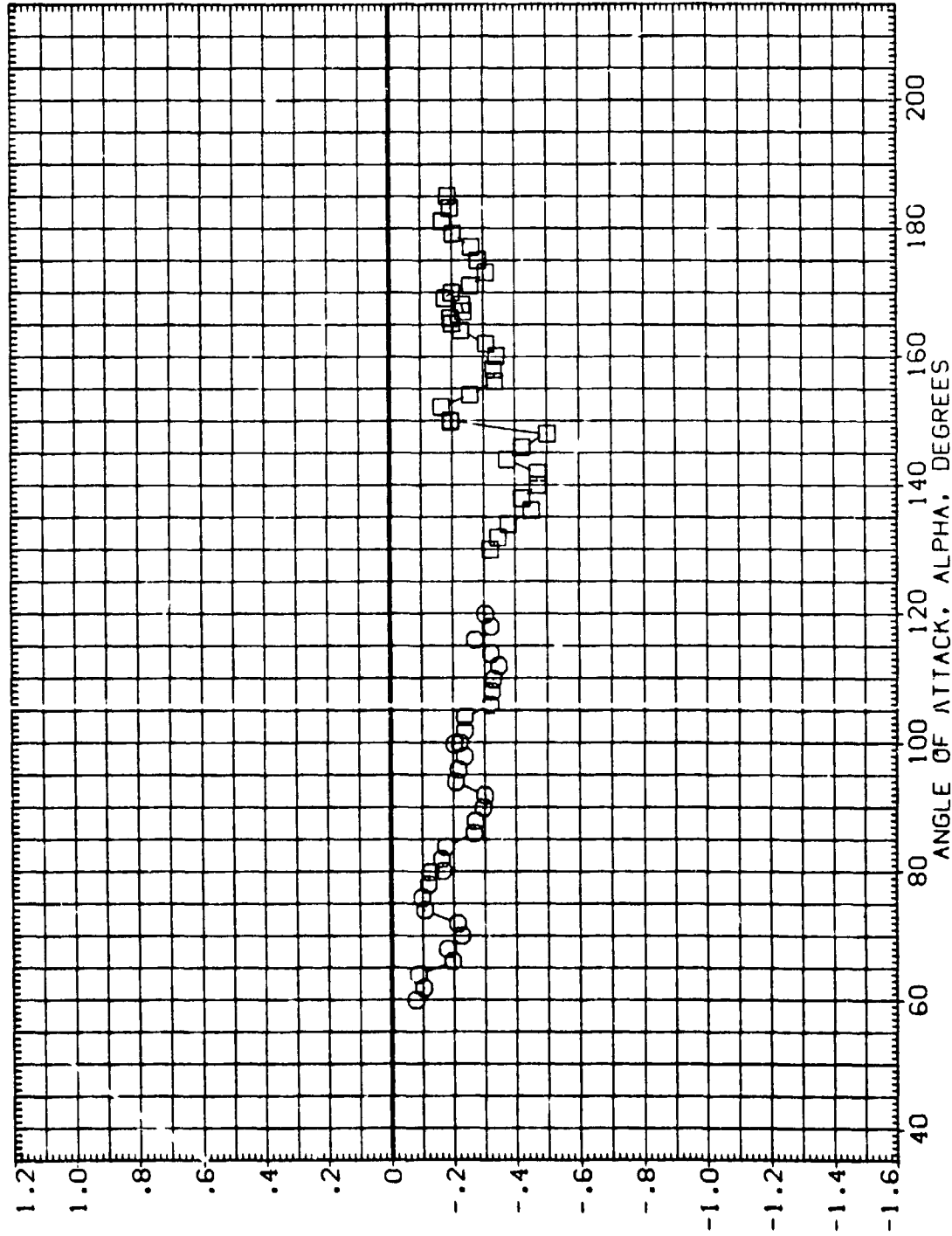
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(B)MACH = 2.74

PAGE 59

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL REFERENCE INFORMATION

(RIJ207)	HSFC 1WT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SQ.FT.
(RIJ208)	HSFC 1WT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(C)MACH = 3.48

PAGE 60

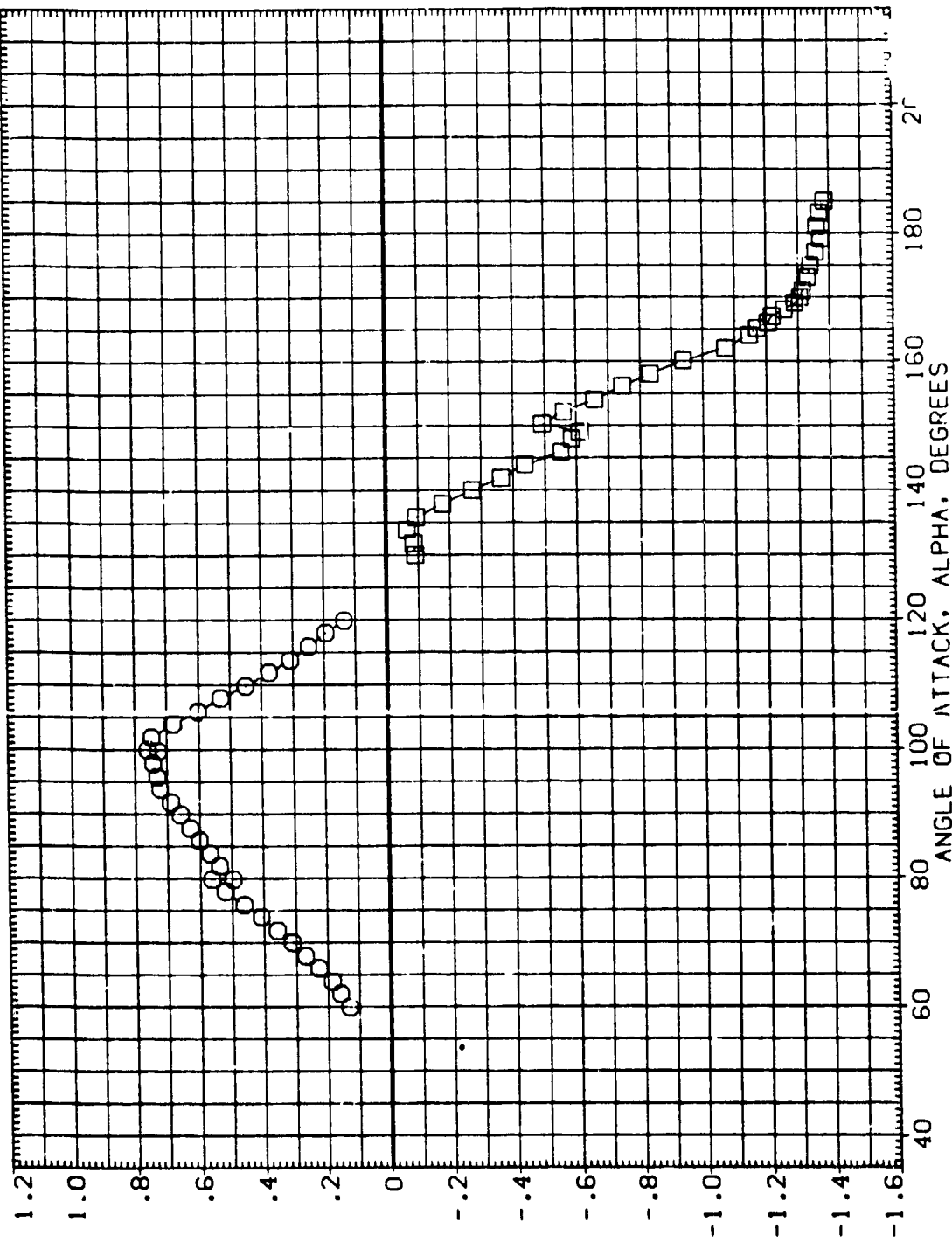
DATA SET SYMBOL
(RIJ207)
(RIJ208)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
2.500
2.500

REFERENCE INFORMATION
SREF 115.6900 SO.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



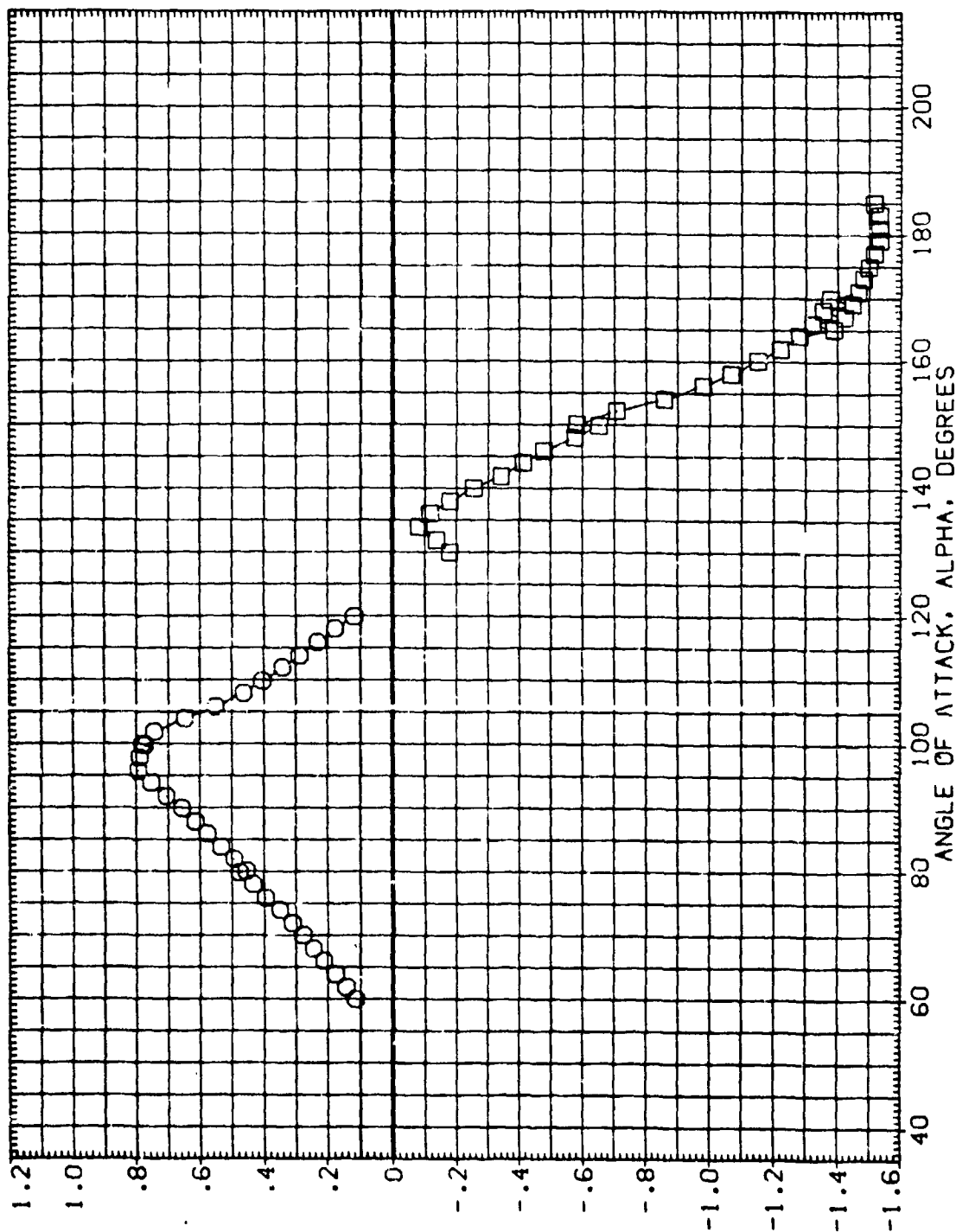
NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (G1)

(A)MACH = 1.96

PAGE

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ207)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SQ.FT.
(RIJ208)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(B)MACH = 2.74

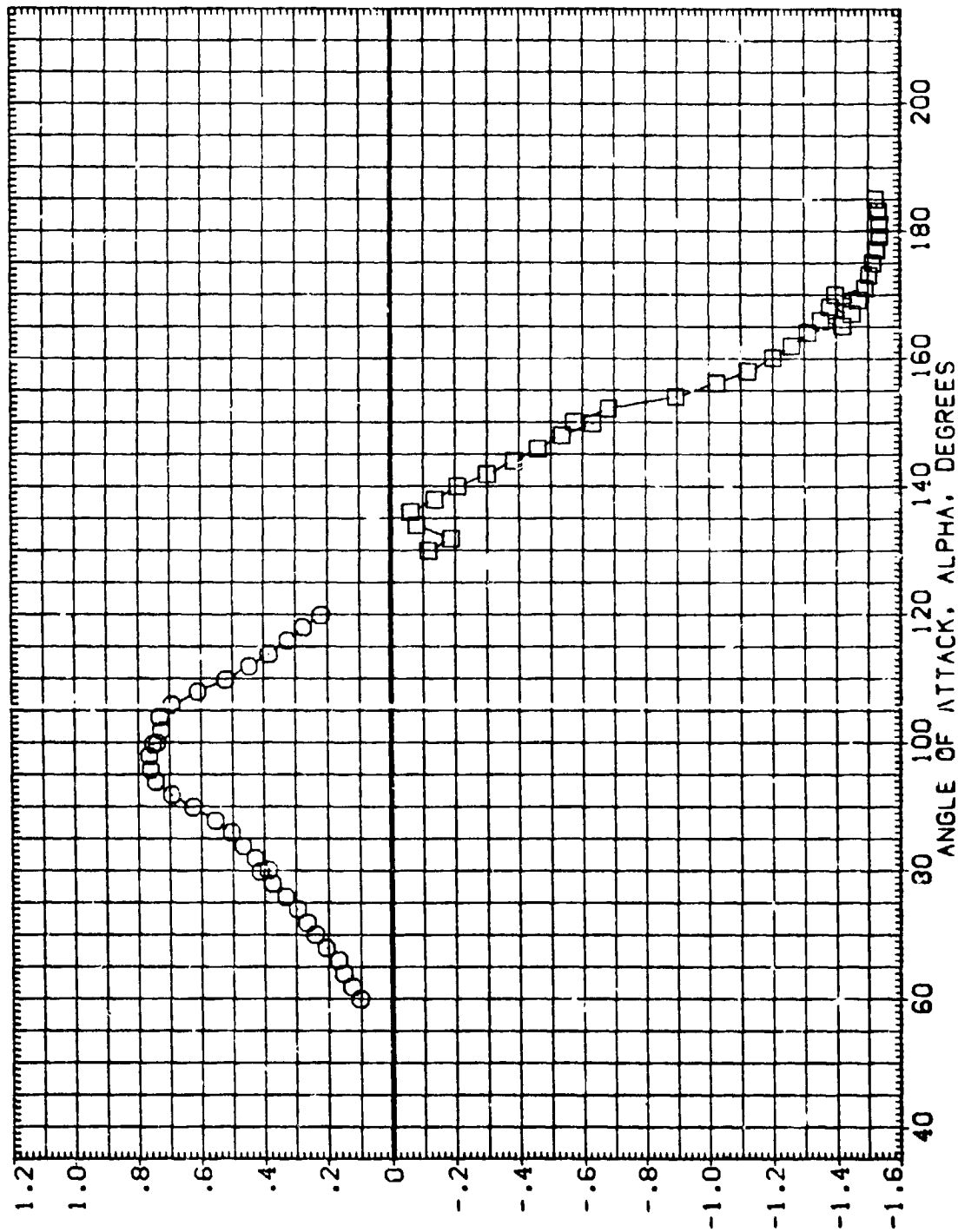
PAGE 62

NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (R1J207) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 (R1J208) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI GIMBAL
 180.000 2.500
 180.000 2.500

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6+00 IN.
 BREF 145.6400 IN.
 YMRP 114.1950 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)
 (C)MACH = 3.48
 PAGE 63

DATA SET SYMBOL
(P1J207)
(P1J208)

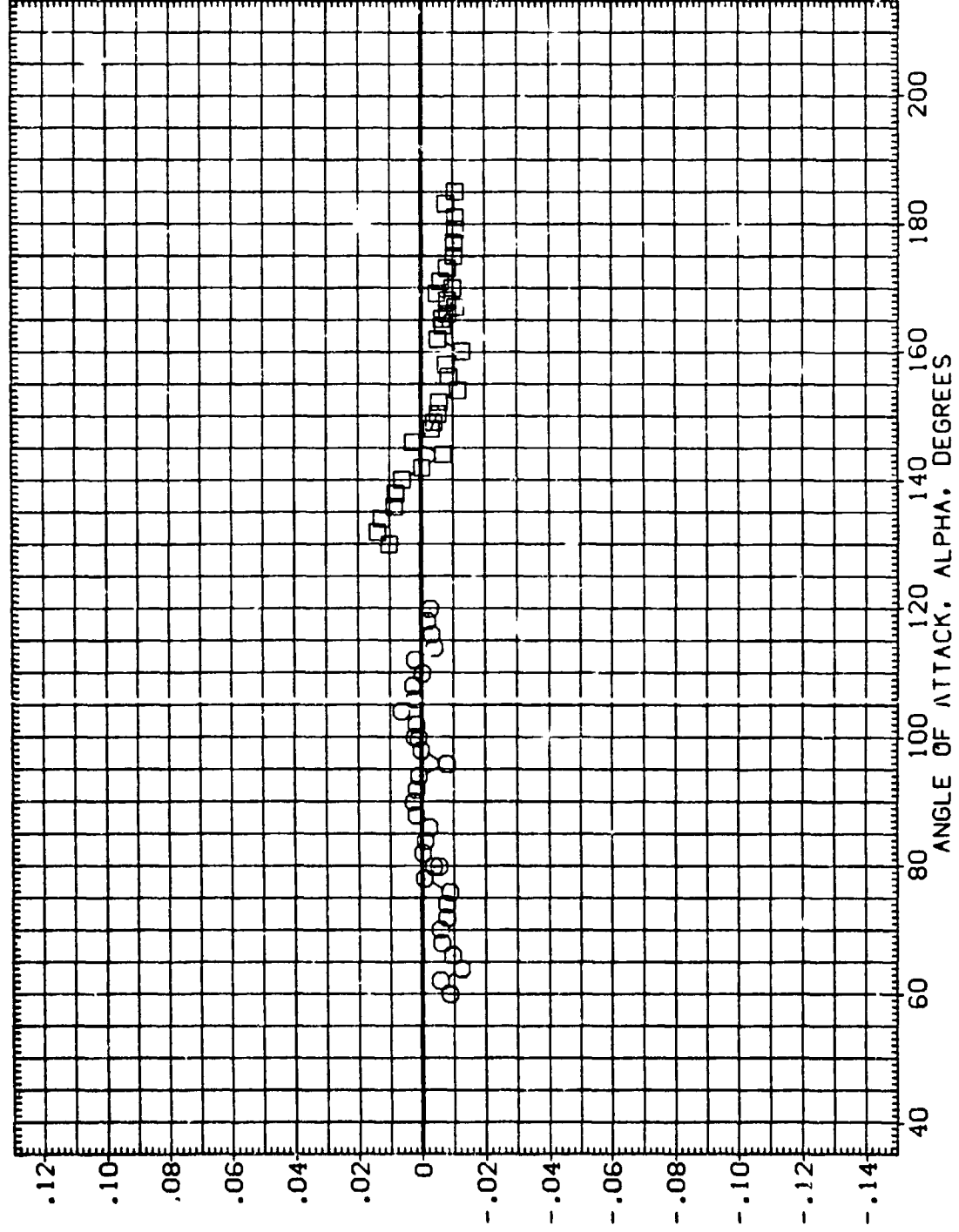
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
2.500
2.500

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(A)MACH = 1.96

PAGE 64

DATA SET SYMBOL
(R1J207)
(R1J208)

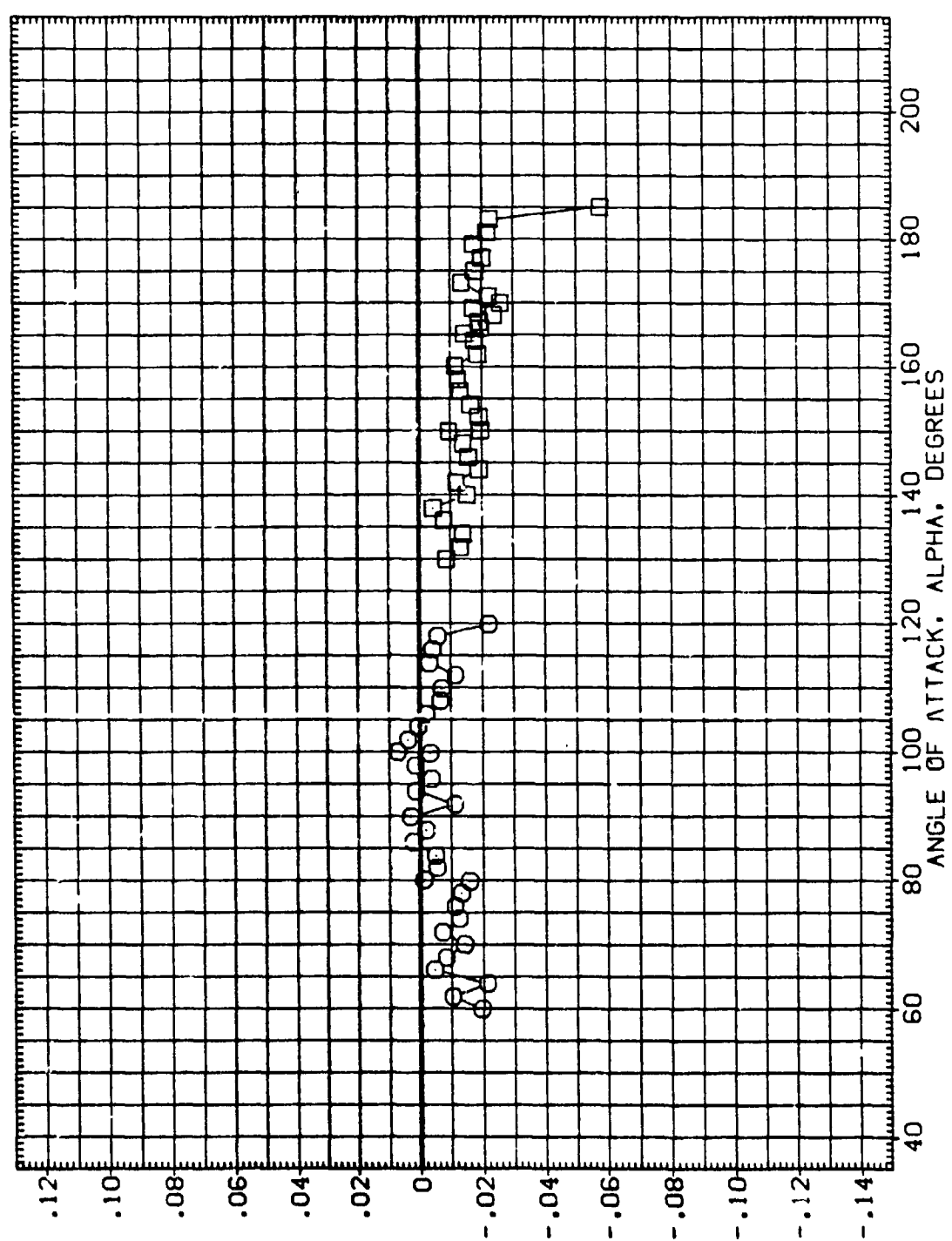
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
2.500
2.500

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XN 114.1950 IN.
YHRP .0000 IN.
ZHRP .0000 IN.
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL

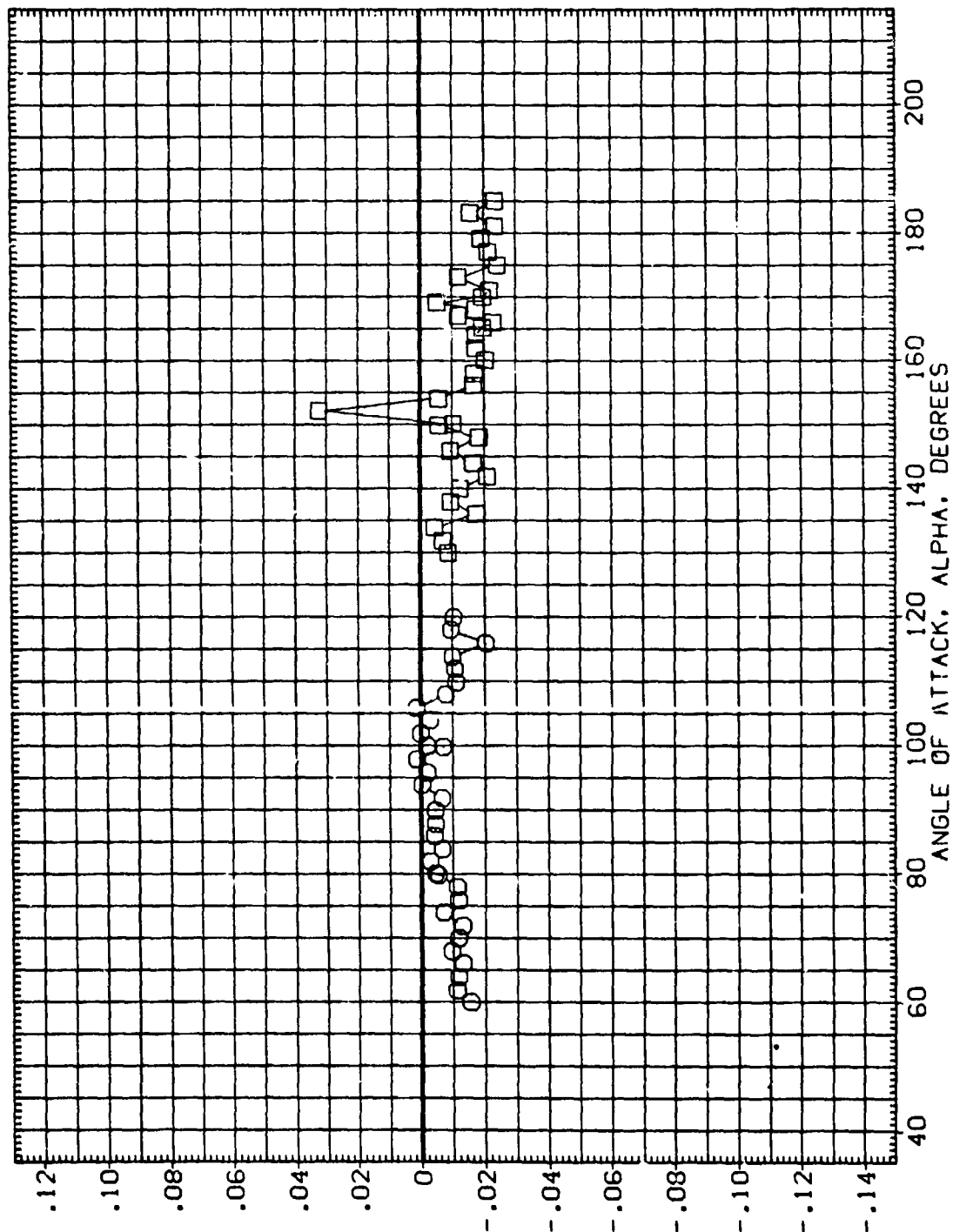


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(B)MACH = 2.74

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ207)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SQ.FT.
(RIJ208)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				YMRP 114.1950 IN. XN
				ZMRP .0000 IN. YN
				SCALE .0055 IN. ZN

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



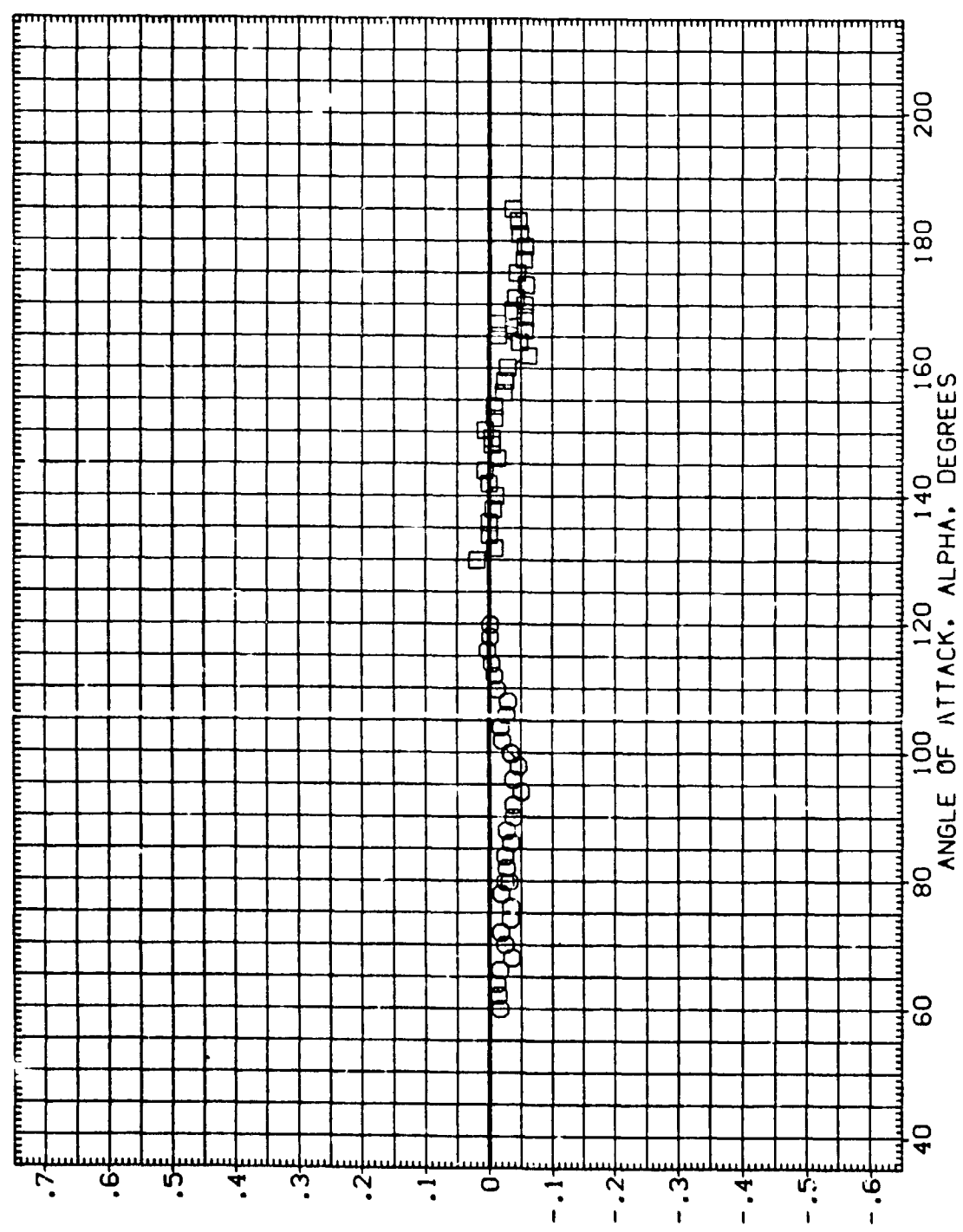
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(C)MACH = 3.48

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ207)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SD.FT.
(RIJ208)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				YMRP 114.1950 IN. XN
				ZMRP .0000 IN. YN
				SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(A)MACH = 1.96

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DATA SET SYMBOL
(R1J207)
(R1J208)

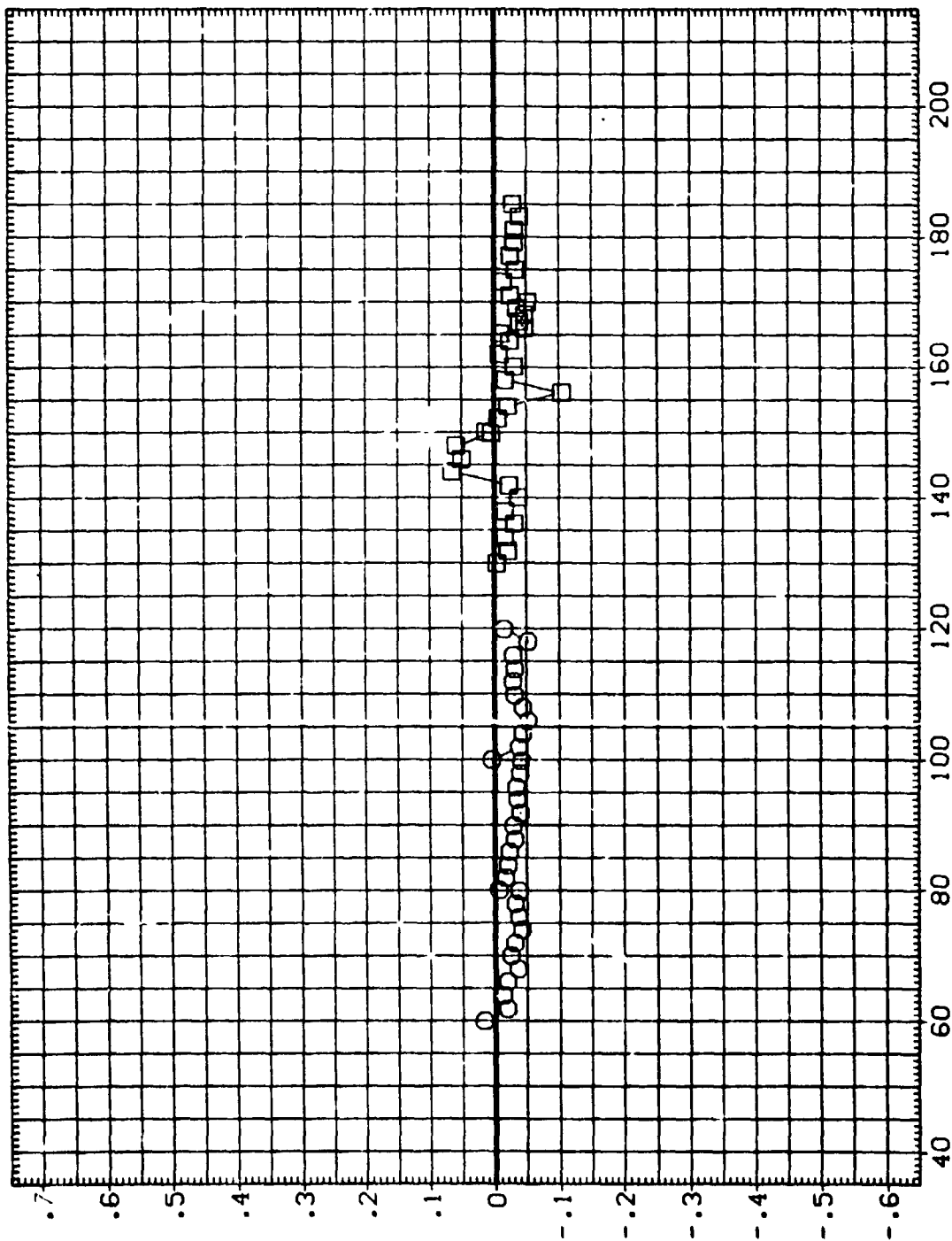
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
2.500
2.500

REFERENCE INFORMATION
SREF 113.6900 SO.FT.
REF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(B)MACH = 2.74

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DATA SET SYMBOL
(RIJ207)
(RIJ208)

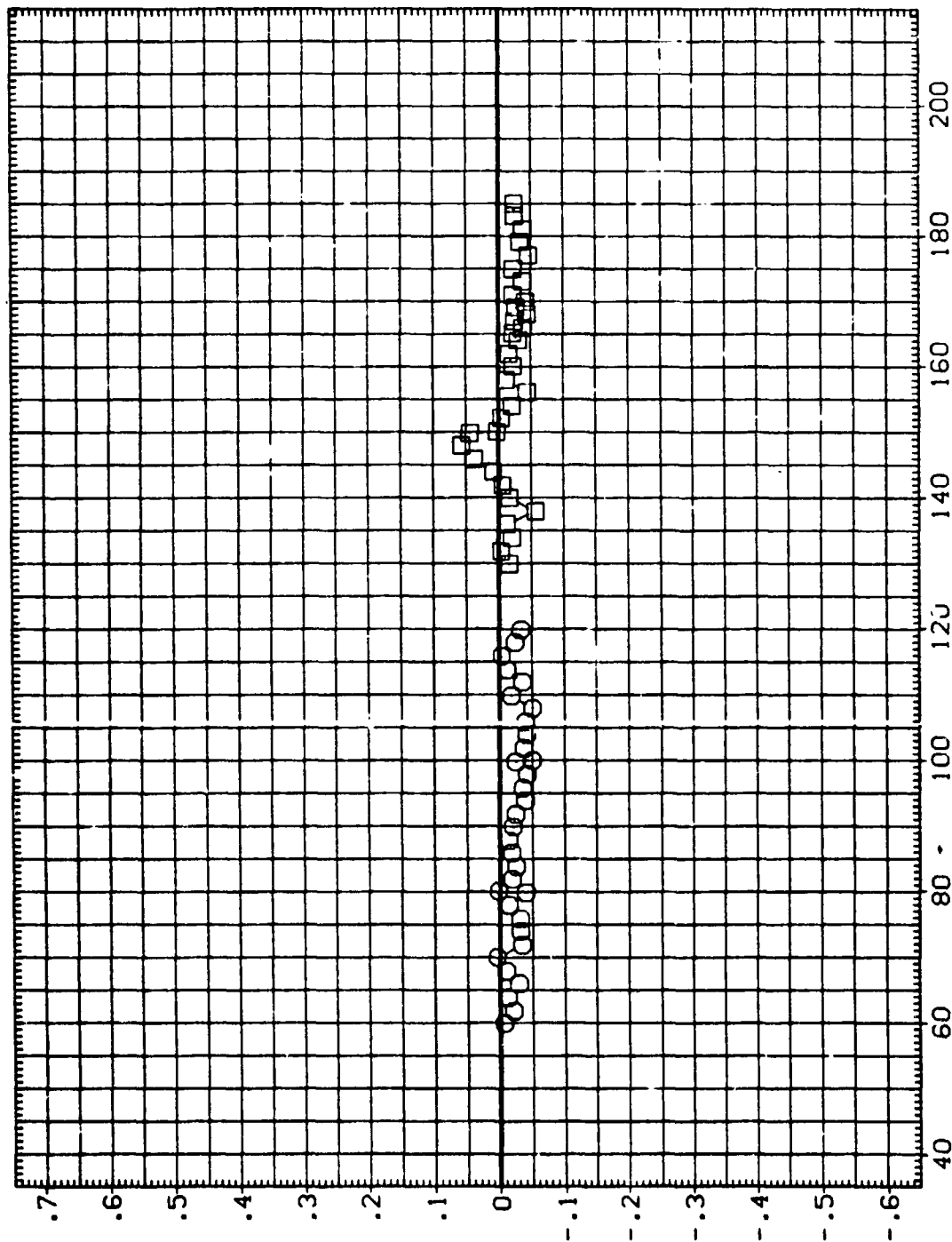
CONFIGURATION DESCRIPTION
MSFC TUT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TUT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
2.500
2.500

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

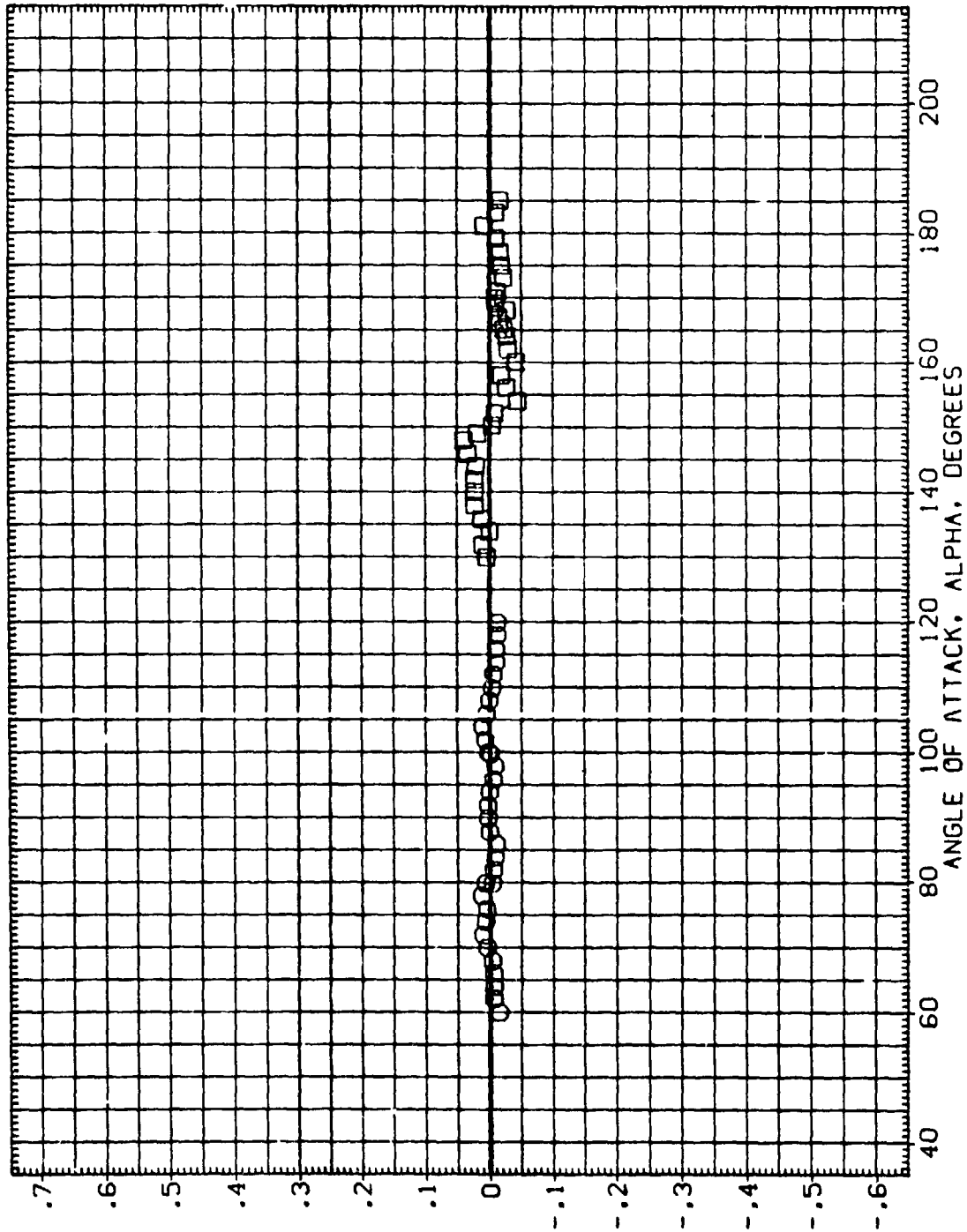
(C)MACH = 3.48

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DATA SET SYMBOL (R1J207)
(R1J208)

CONF'GURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

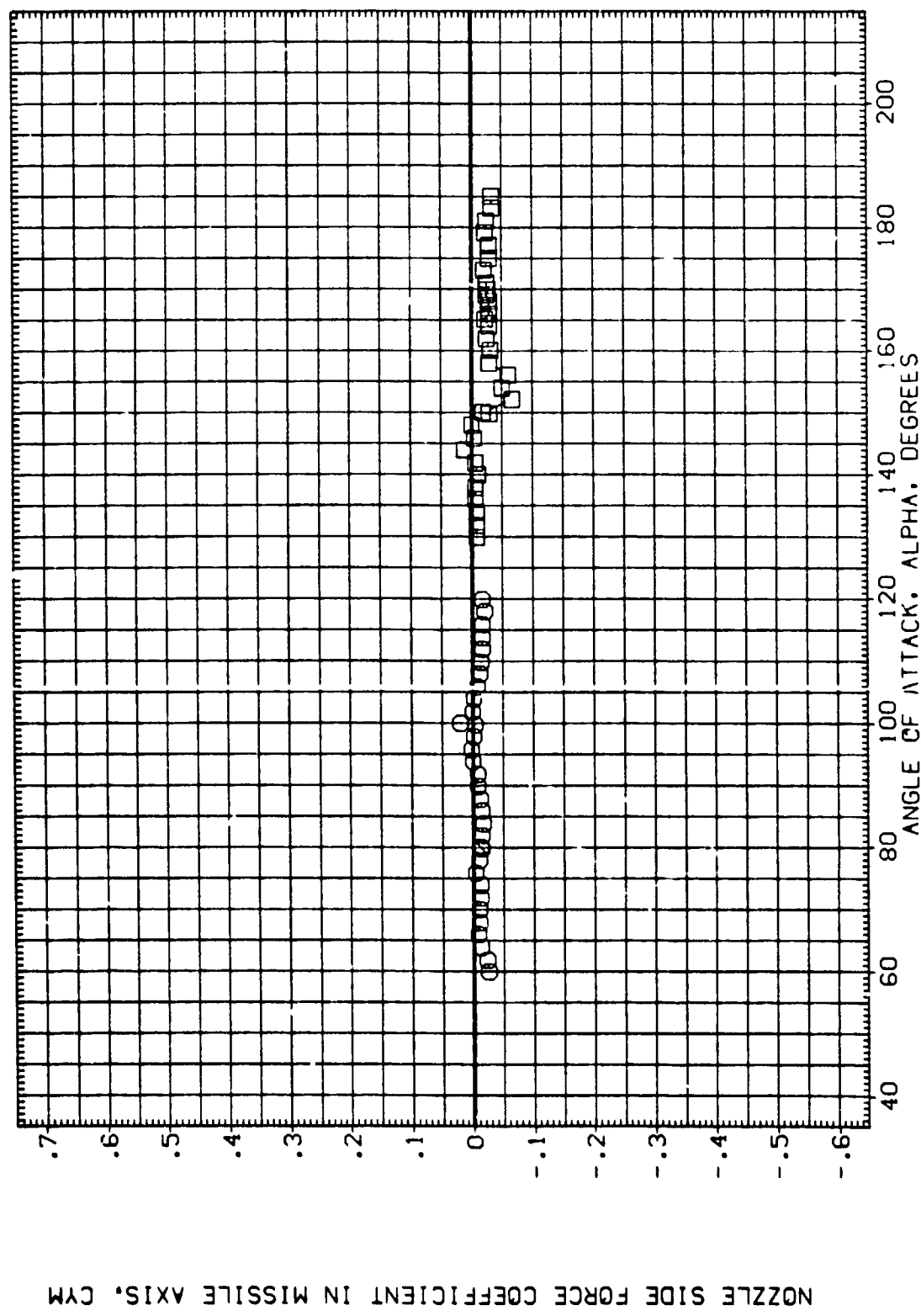


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(A)MACH = 1.96

PAGE 70

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ207)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	SREF 115.6900 SQ.FT.
(RIJ208)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	2.500	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(B)MACH = 2.74

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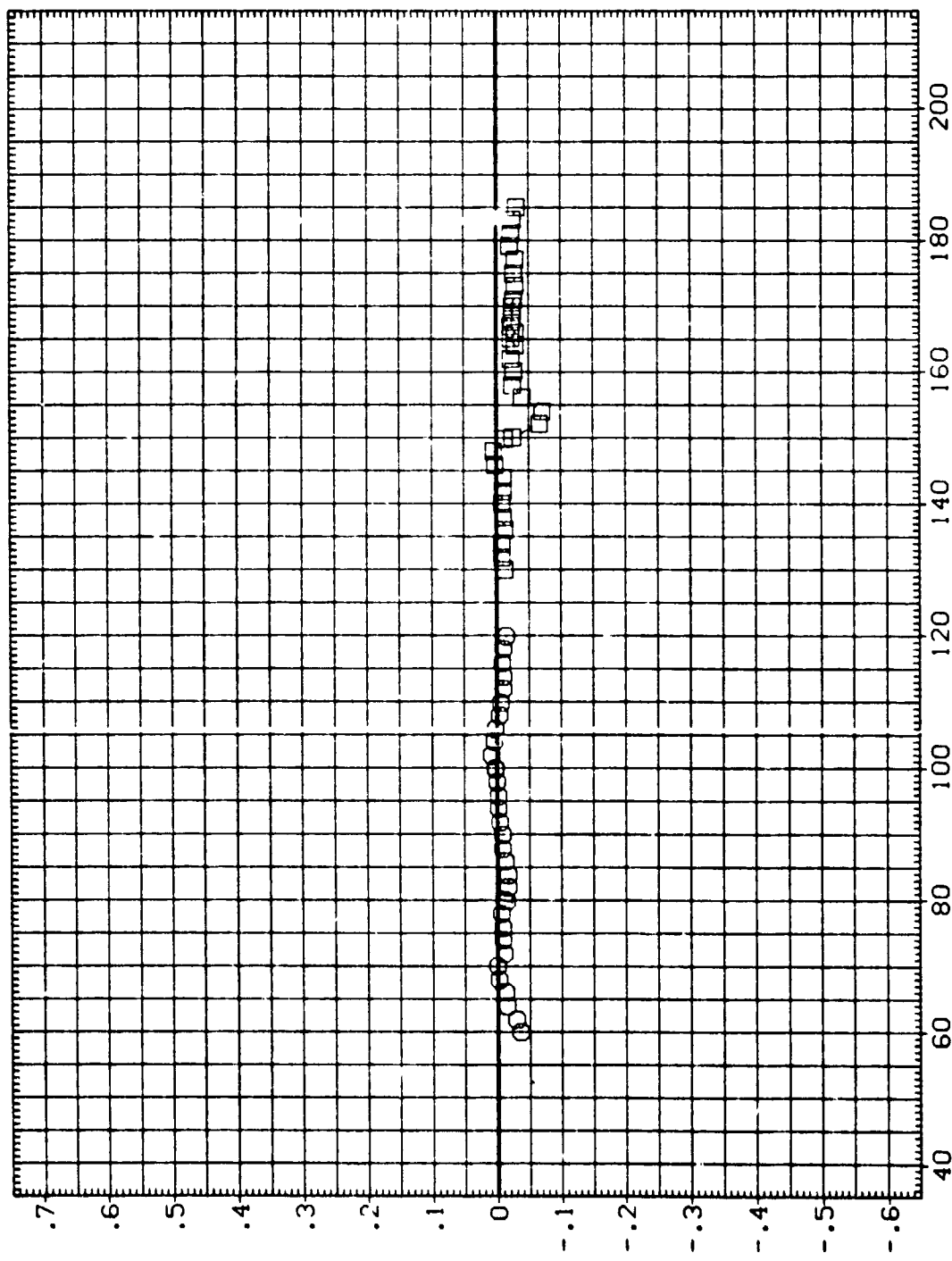
DATA SET SYMBOL
(RIJ207)
(RIJ208)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
2.500
2.500

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

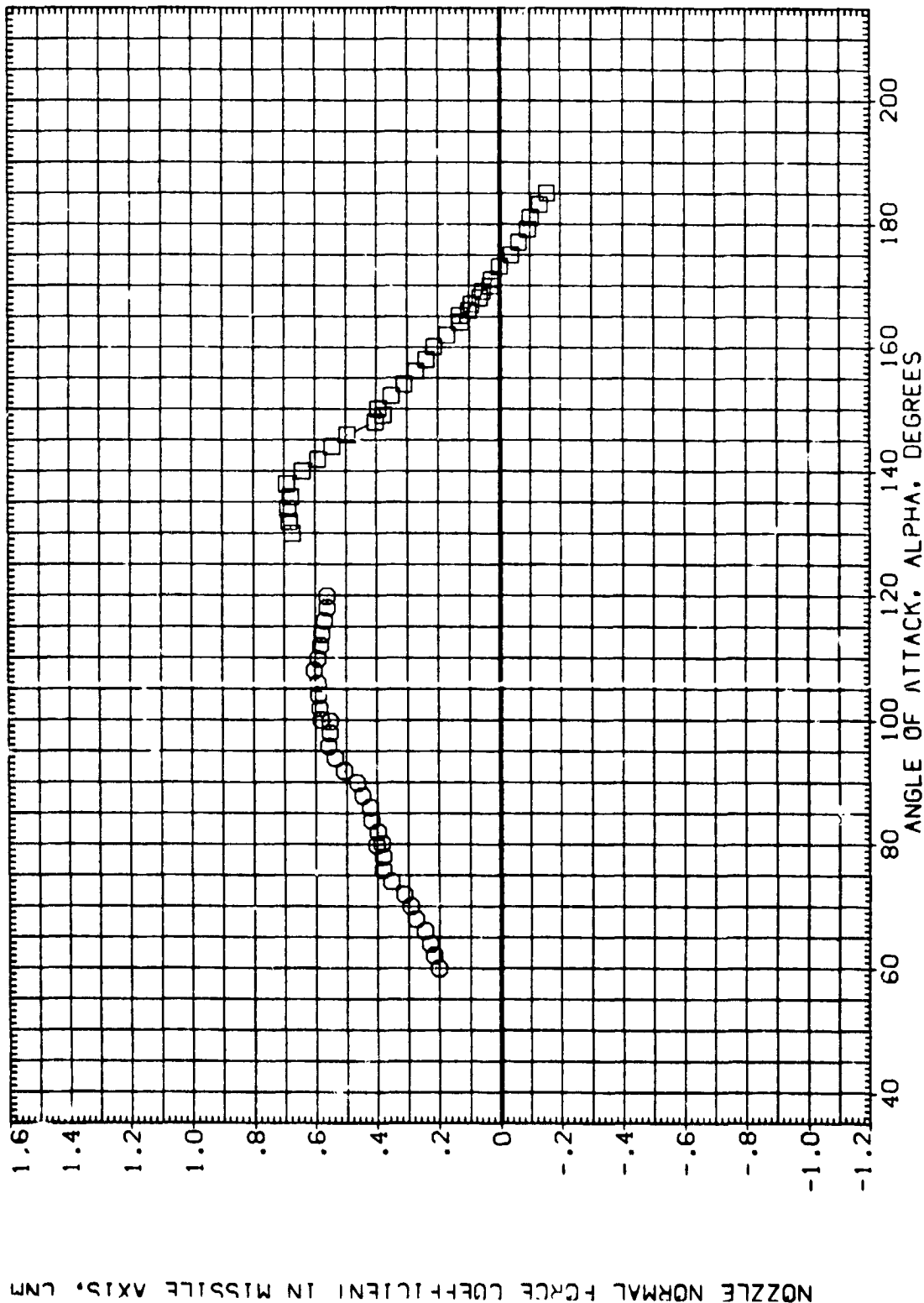


NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=2.5)

(C)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(R1J210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				YMRP 114.1950 IN. XN
				ZMRP .0000 IN. YN
				SCALE .0035



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(A)MACH = 1.95

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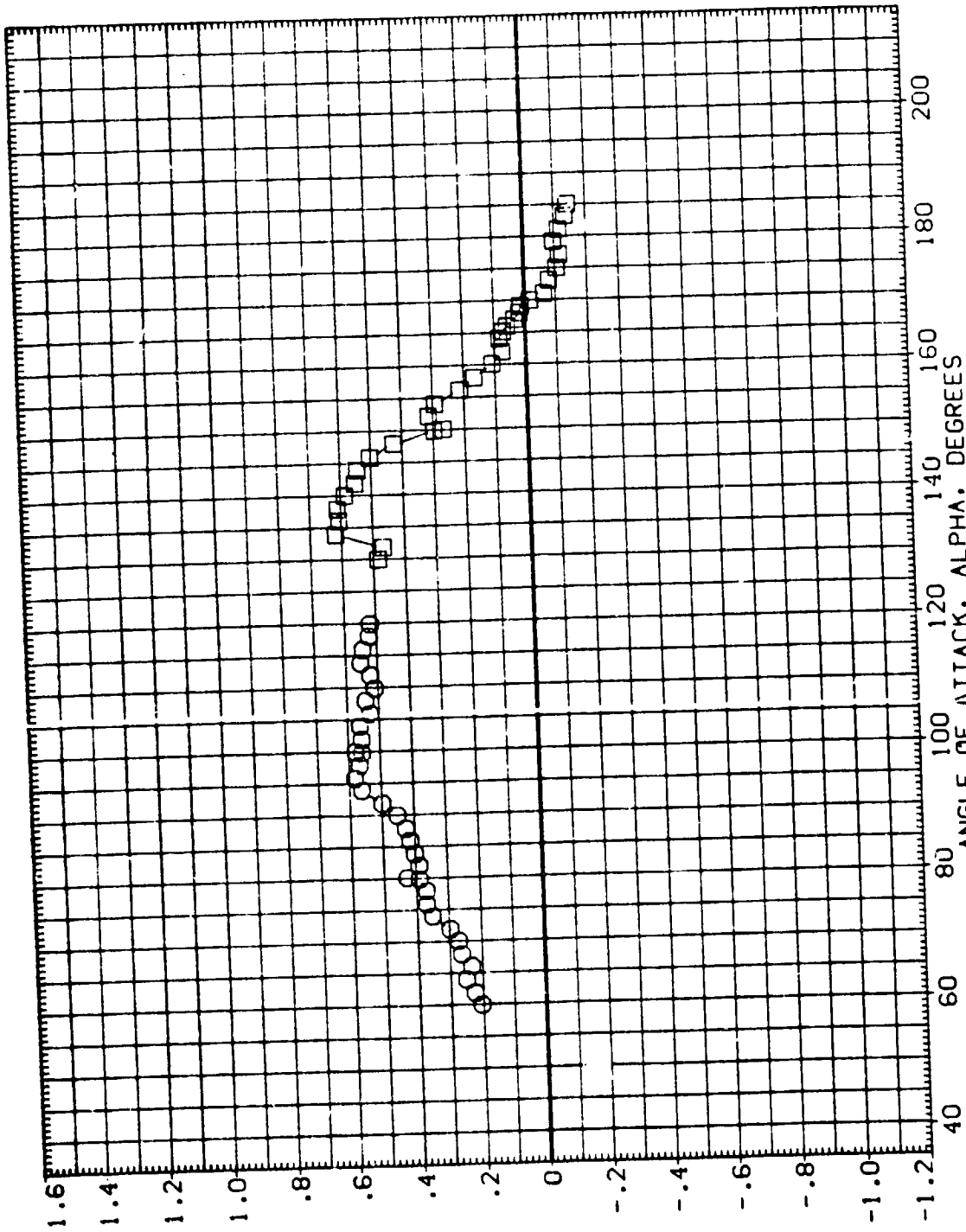
DATA SET SYMBOL
(RIJ209)
(RIJ210)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

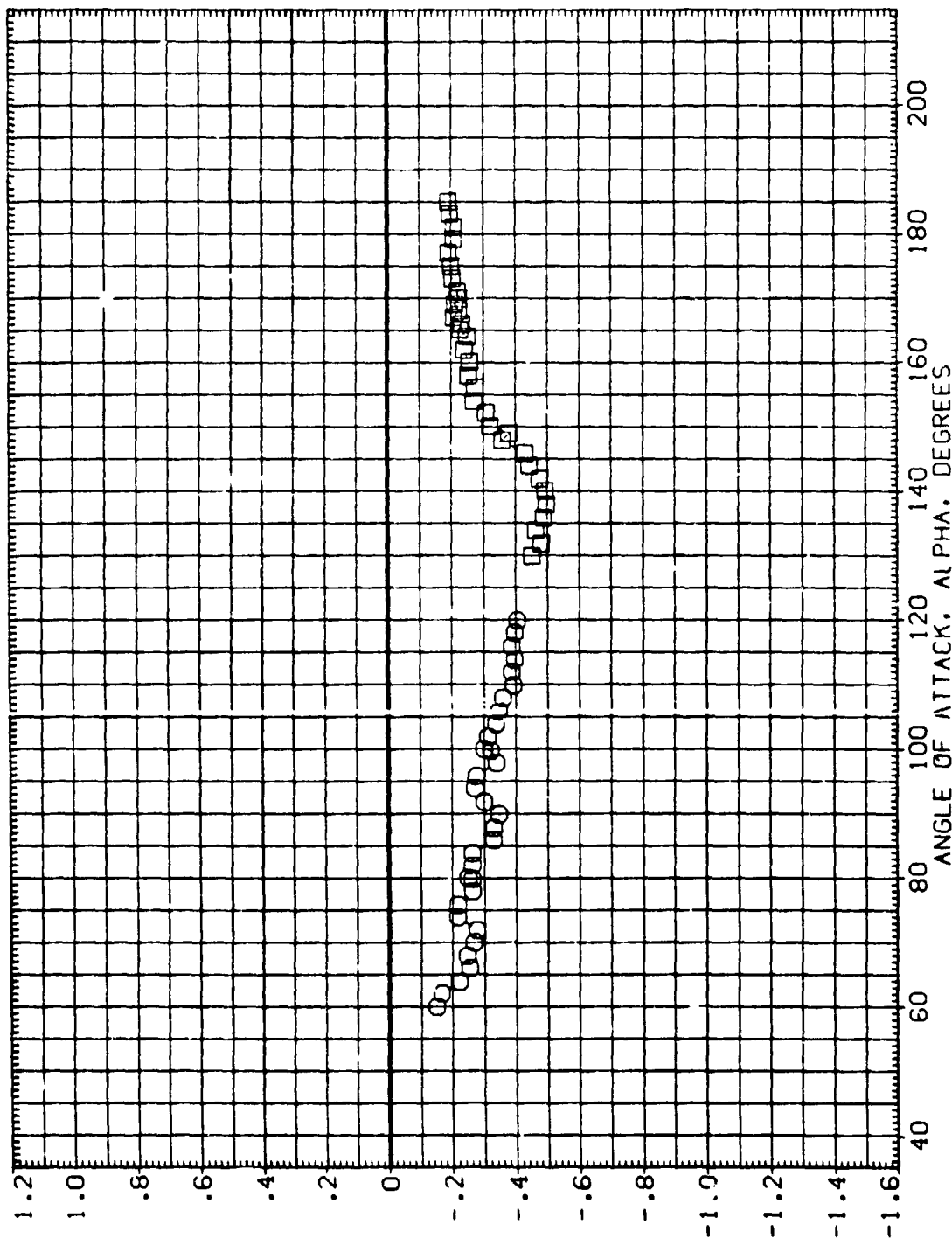
(8)MACH = 2.74

DATA SET SYMBOL (R1J209) (R1J210) B

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI 180.000 180.000

REFERENCE INFORMATION
SREF 115.6900 50.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



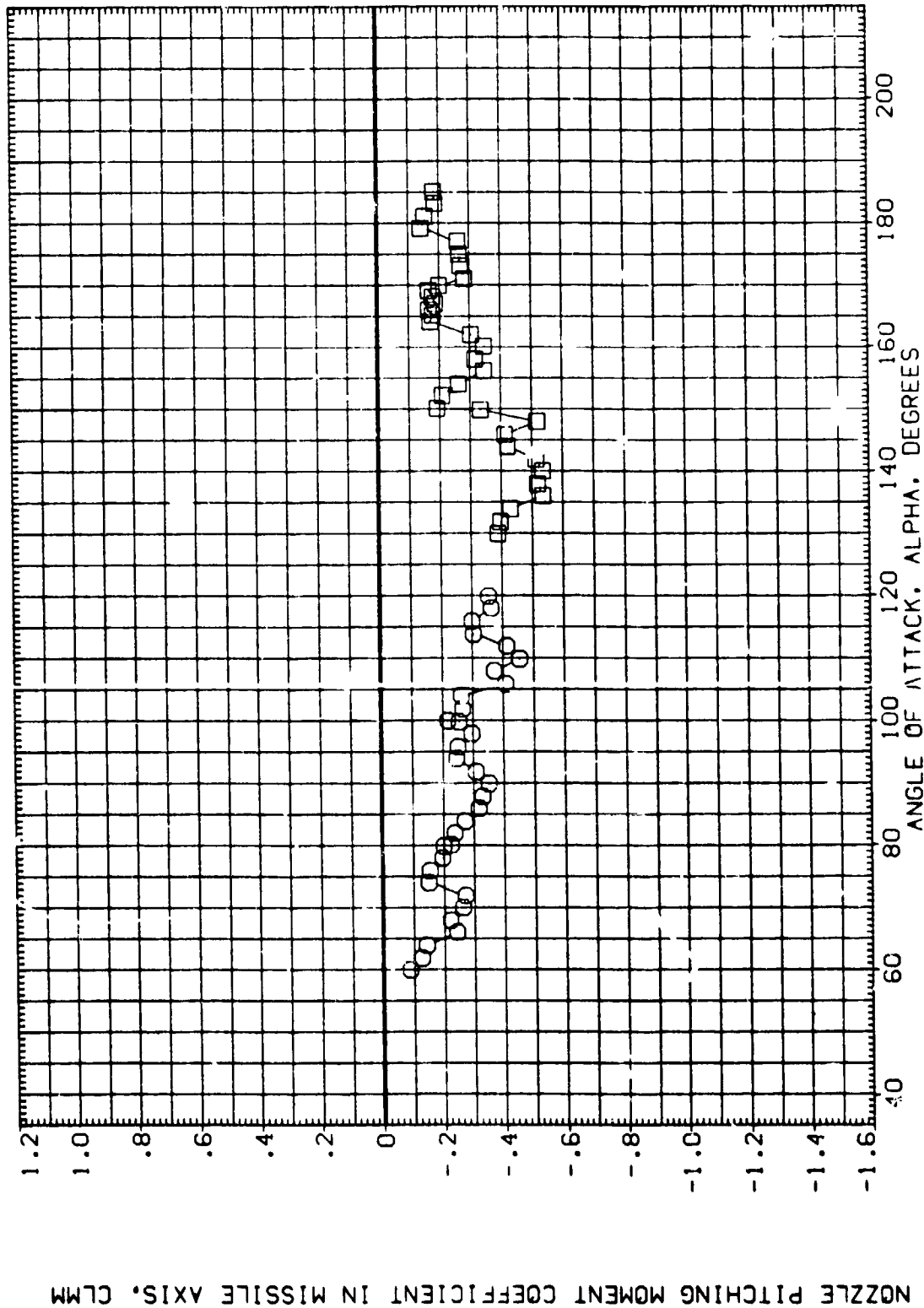
NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(A)MACH = 1.95

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(RIJ210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0053



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

DATA SET SYMBOL

(R1J209)

(R1J210)

CONFIGURATION DESCRIPTION

MSFC TWI 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

MSFC TWI 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI

180.000

180.000

GIMBAL

5.000

5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

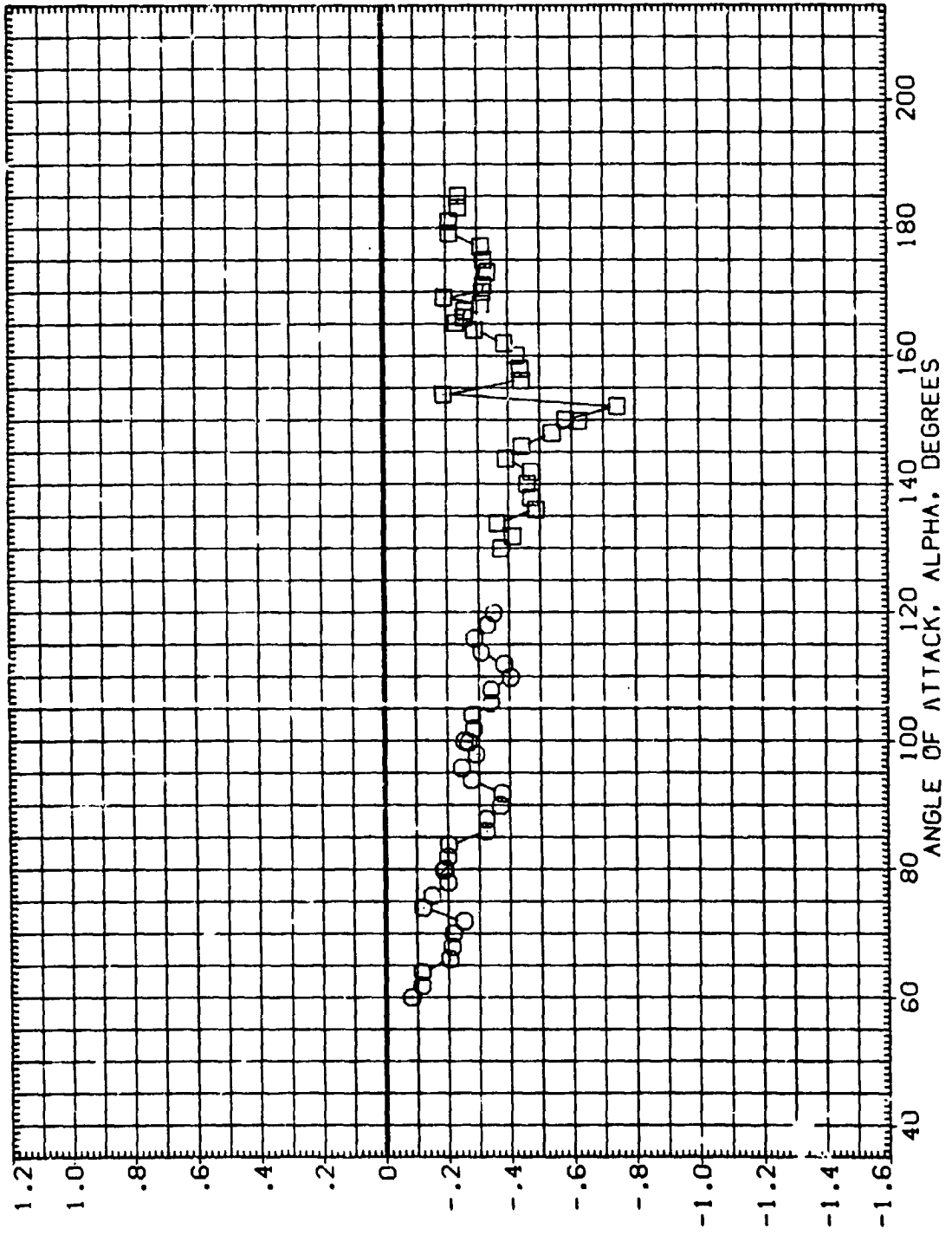
BREF 145.6400 IN.

XMRP 114.1950 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0035



NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

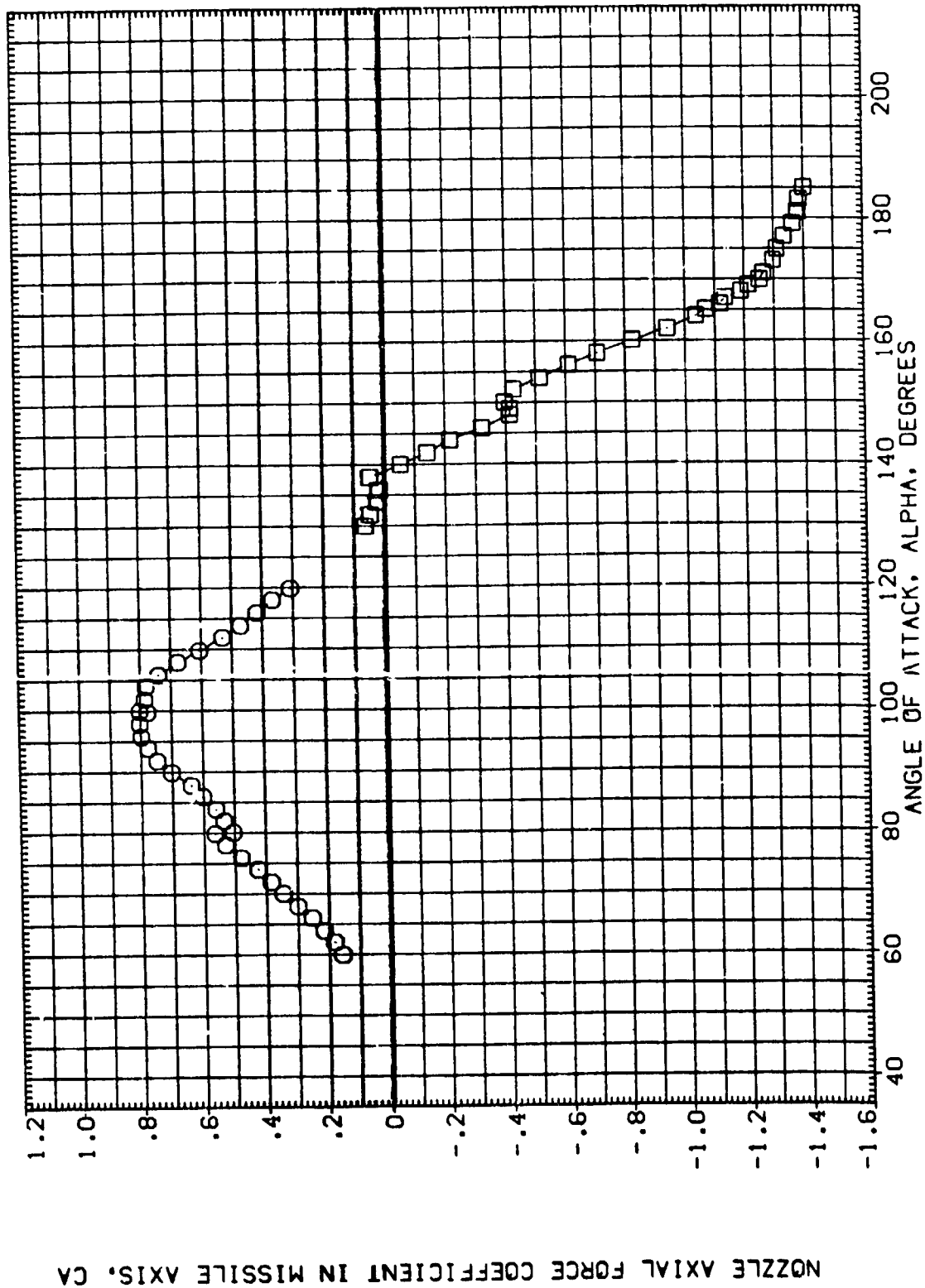
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XHRP 114.1950 IN. XN
 YHRP .0000 IN. YN
 ZHRP .0000 IN. ZN
 SCALE .0055

GIMBAL
 PHI 180.000
 180.000 5.000

DATA SET SYMBOL
 (R1J209) B
 (R1J210)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(A)MACH = 1.95

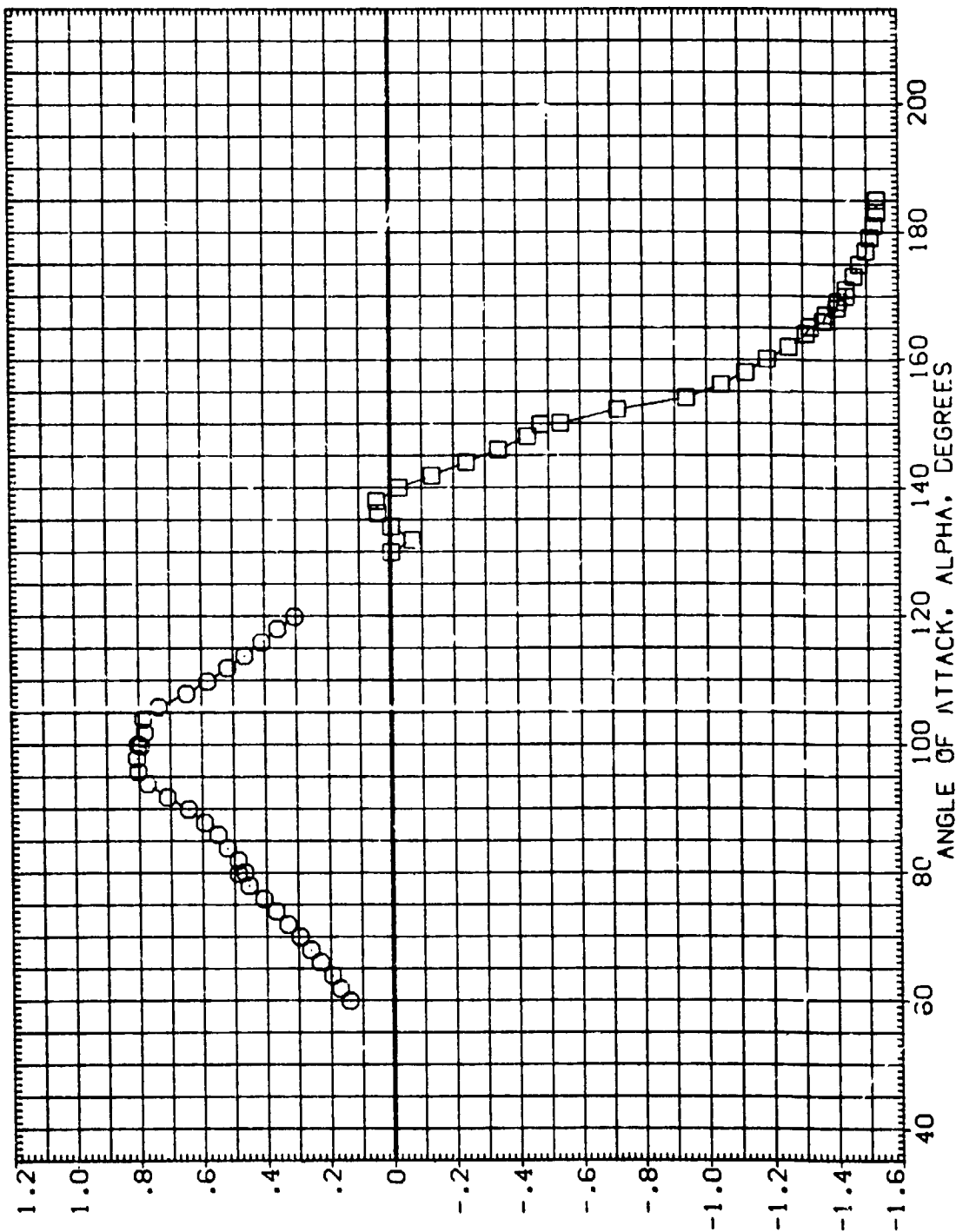
DATA SET SYMBOL
(R1J209)
(R1J210)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



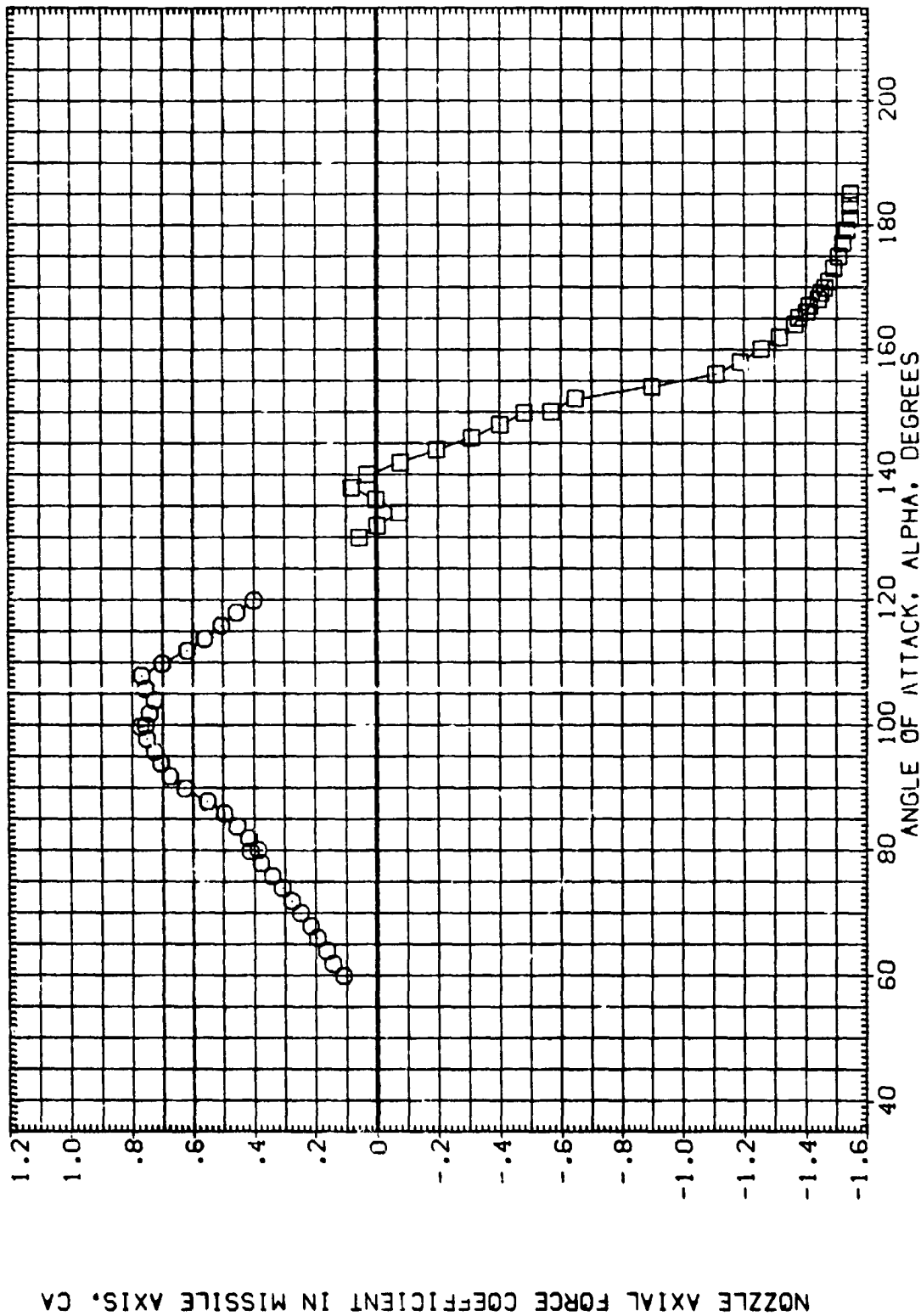
NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(B)MACH = 2.74

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(R1J210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1350 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(C)MACH = 3.48

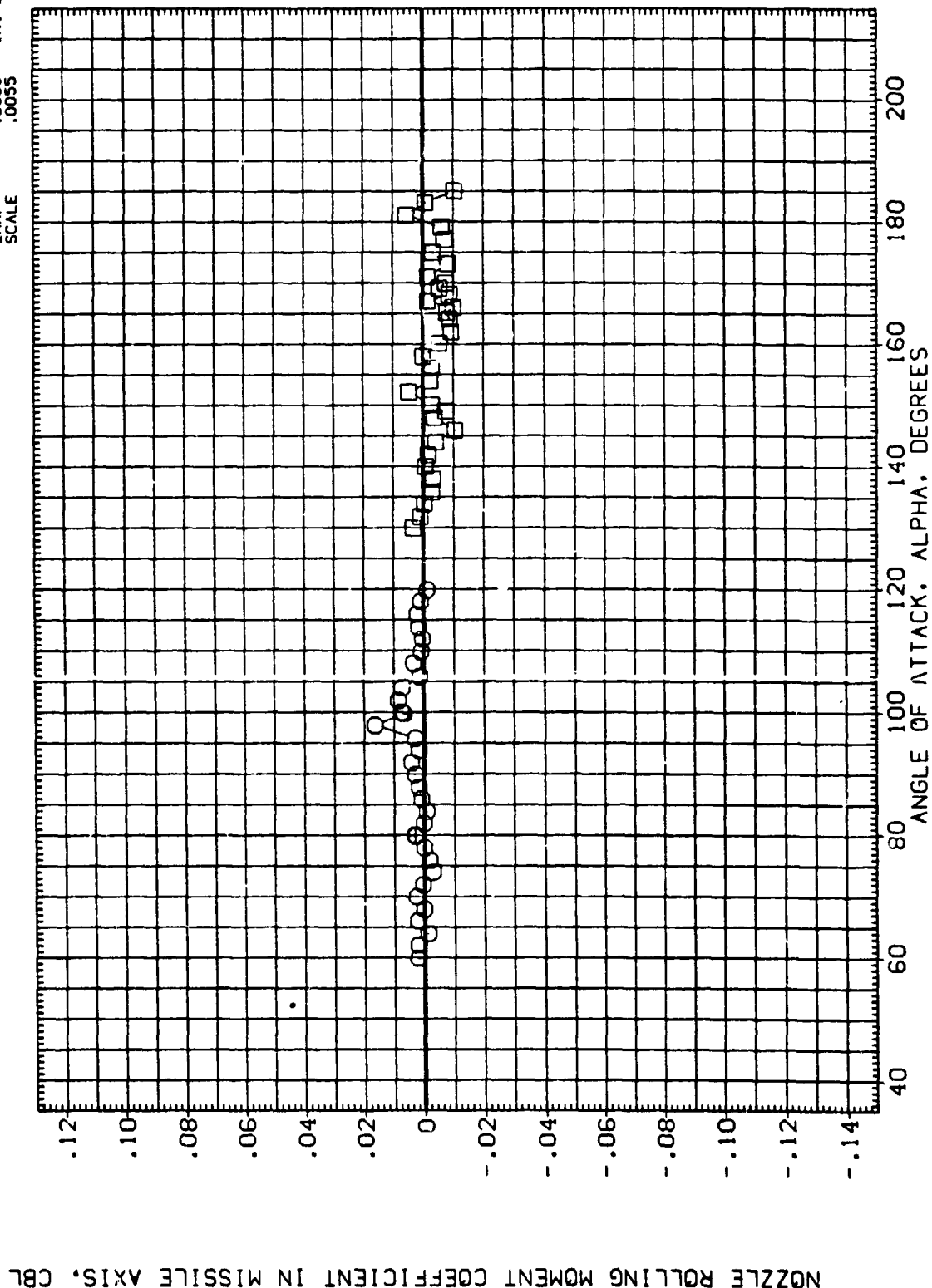
PAGE 81

DATA SET SYMBOL (R1J209)
 (R1J210)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI 180.000 5.000
 180.000 5.000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)
 (A)MACH = 1.95
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DATA SET SYMBOL

(RIJ209)

(RIJ210)

CONFIGURATION DESCRIPTION

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI

180.000

180.000

GIMBAL

5.000

5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

BREF 145.6400 IN.

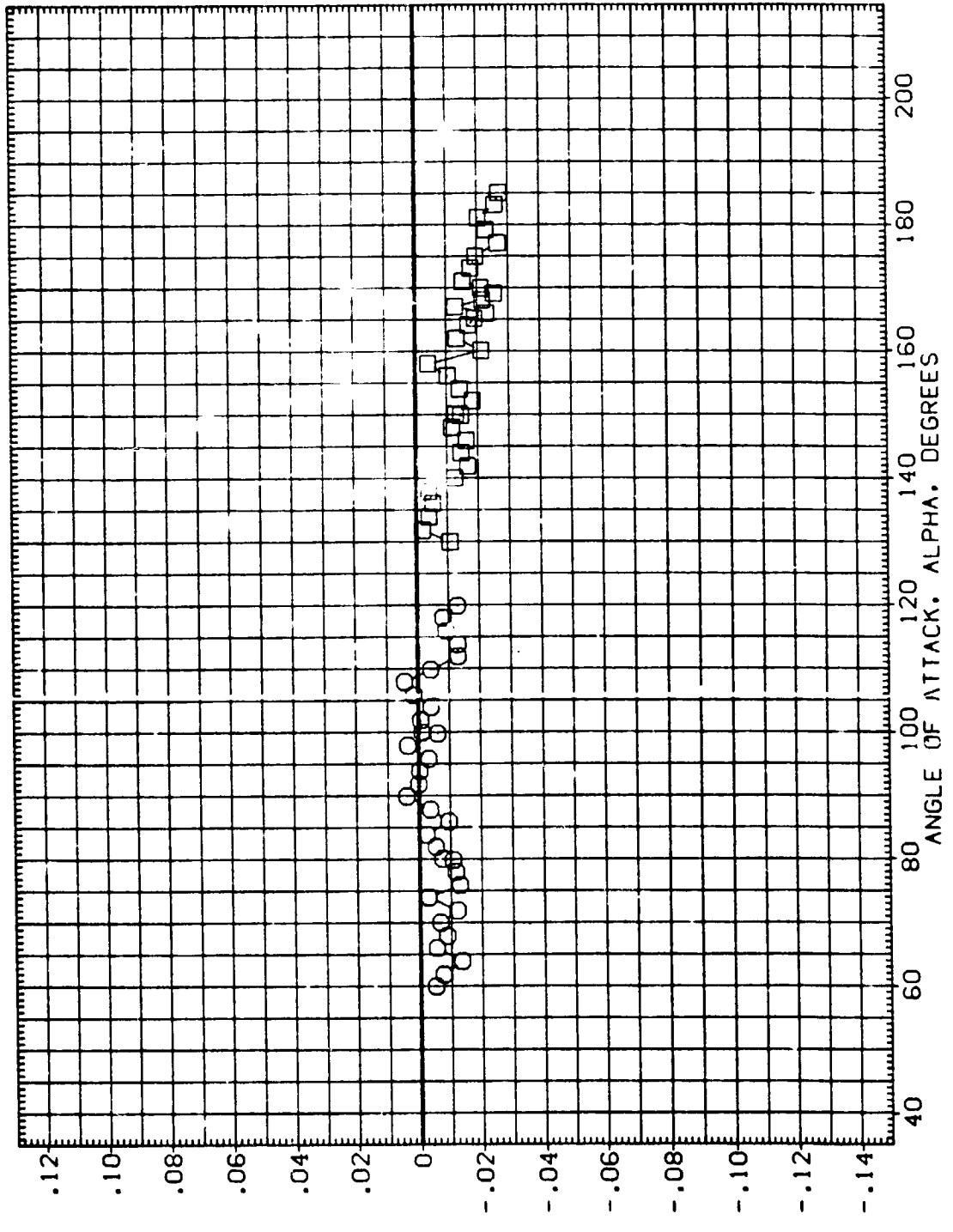
XMRP 114.1950 IN. YN

YMRP .0000 IN. YN

ZMRP .0000 IN. YN

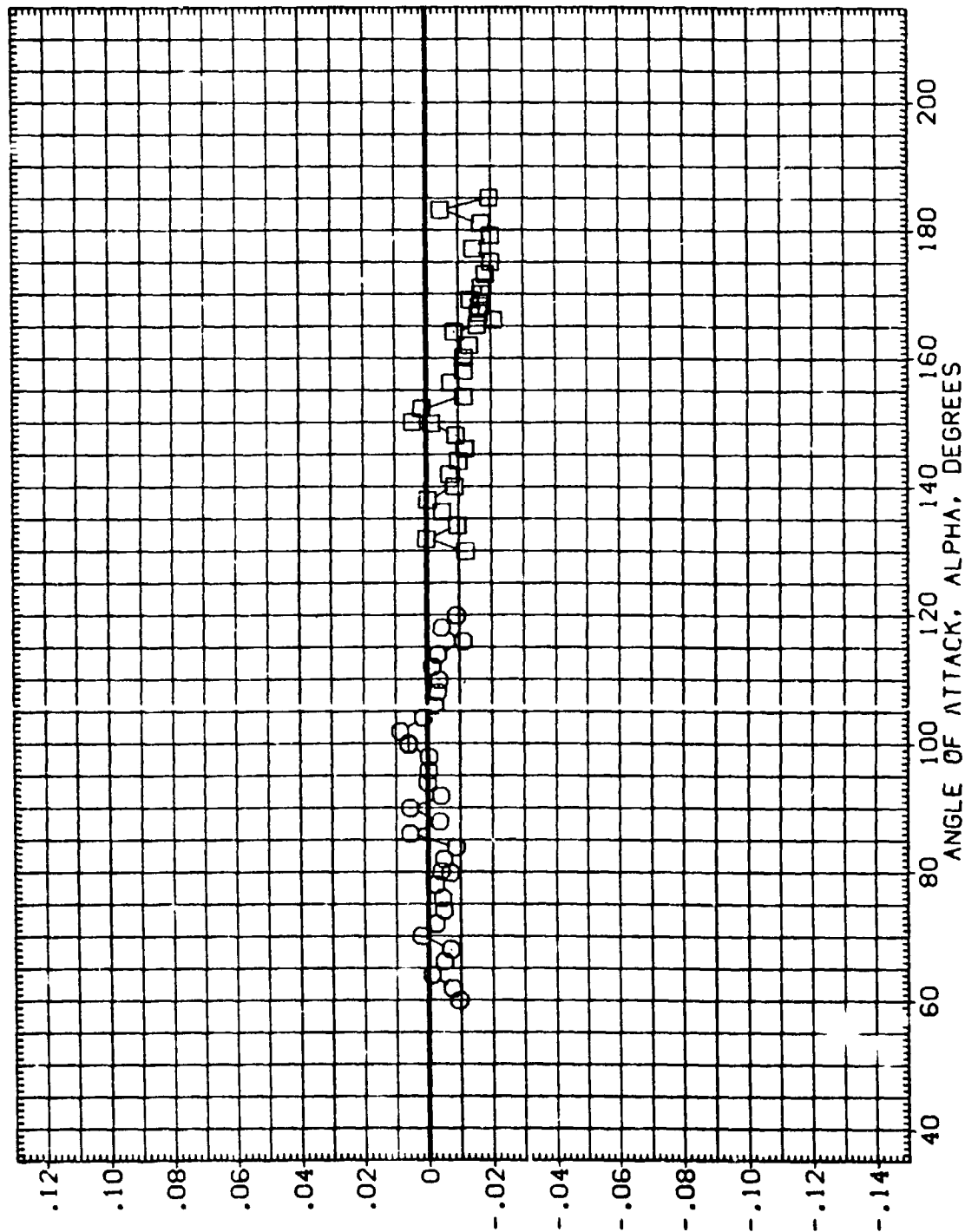
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(R1J210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055

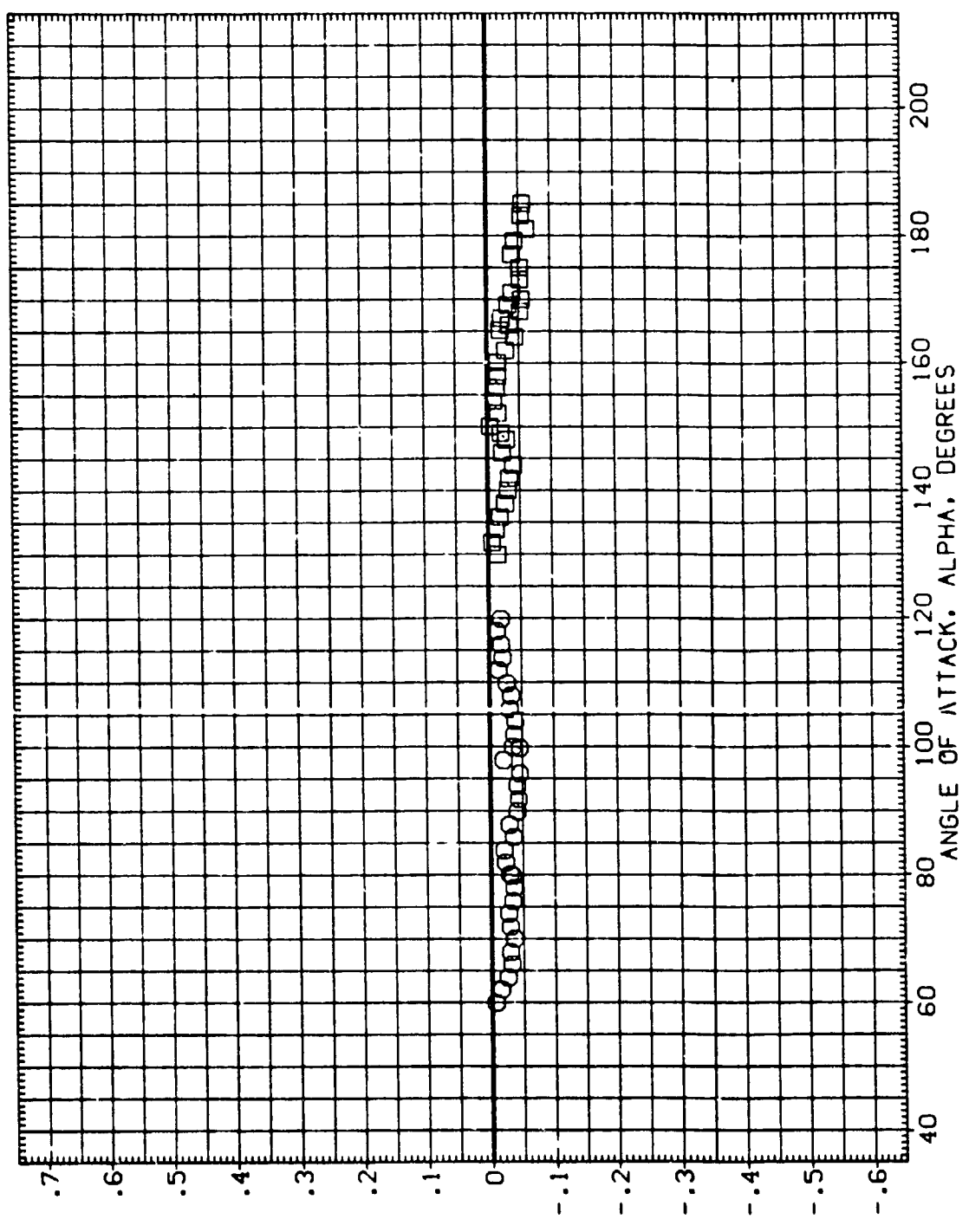
NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)
 (C)MACH = 3.48
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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(RIJ210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



DATA SET SYMBOL (R1J209) (R1J210)

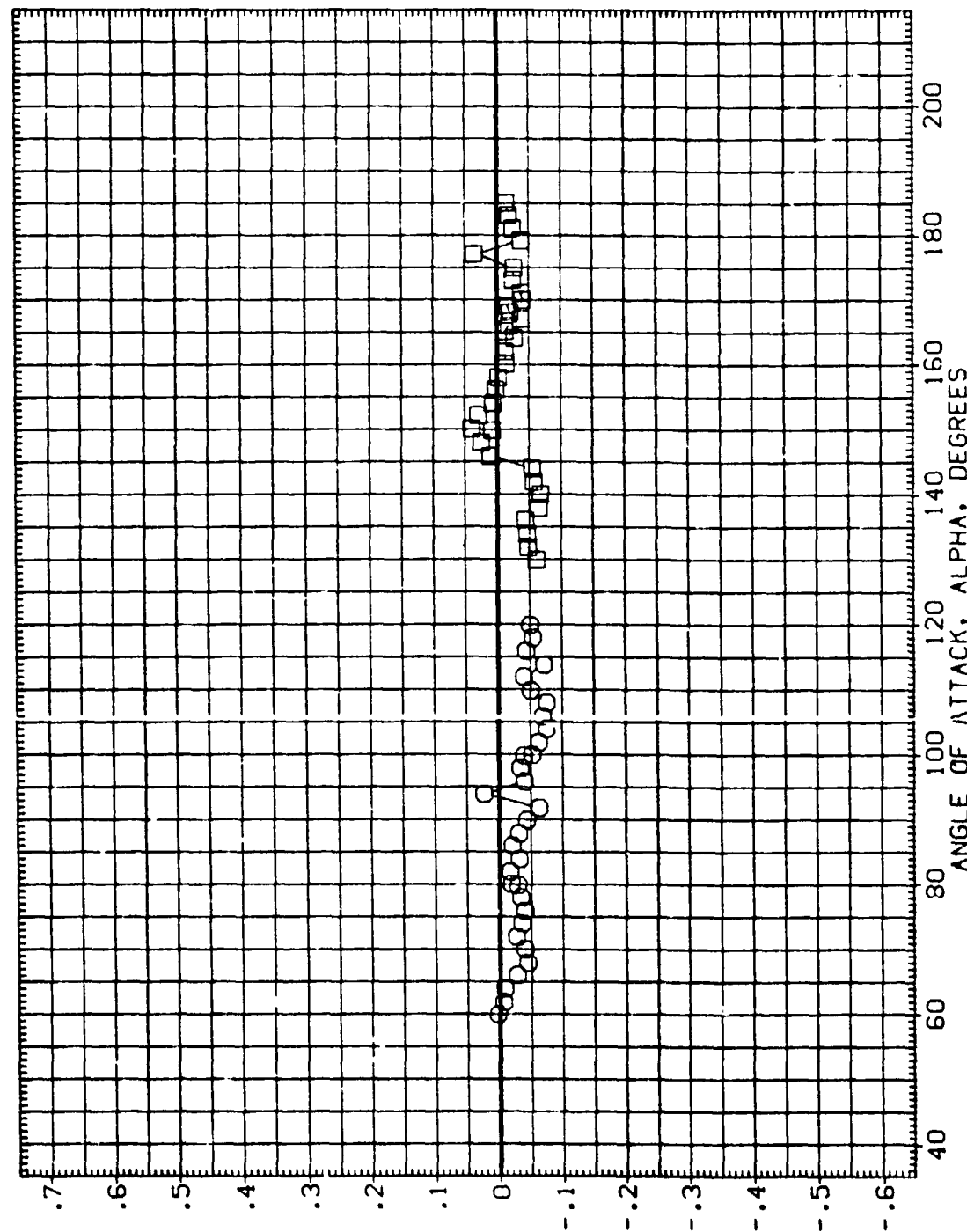
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION
SREF 115.5900 SO.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



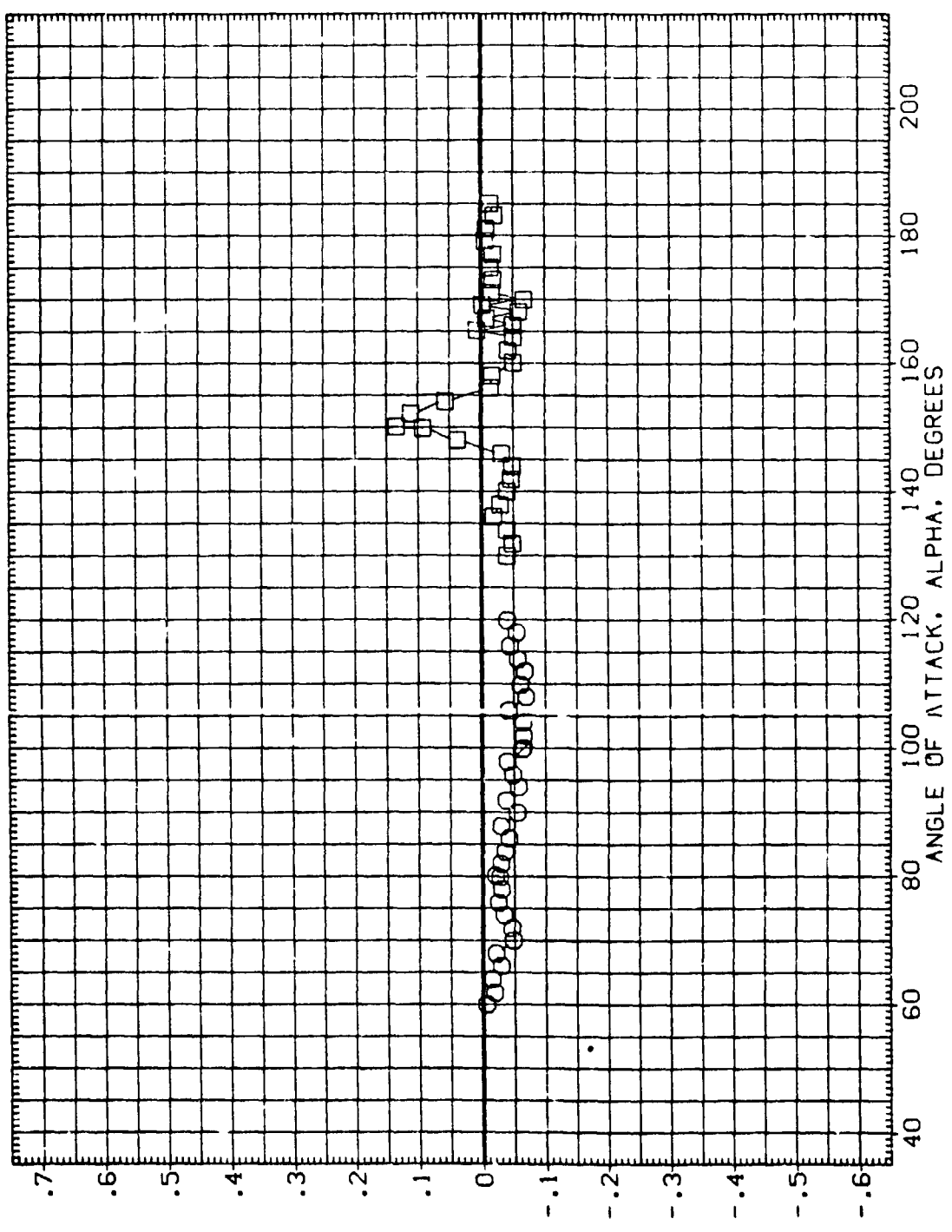
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(B)MACH = 2.74

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SO.FT.
(R1J210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055

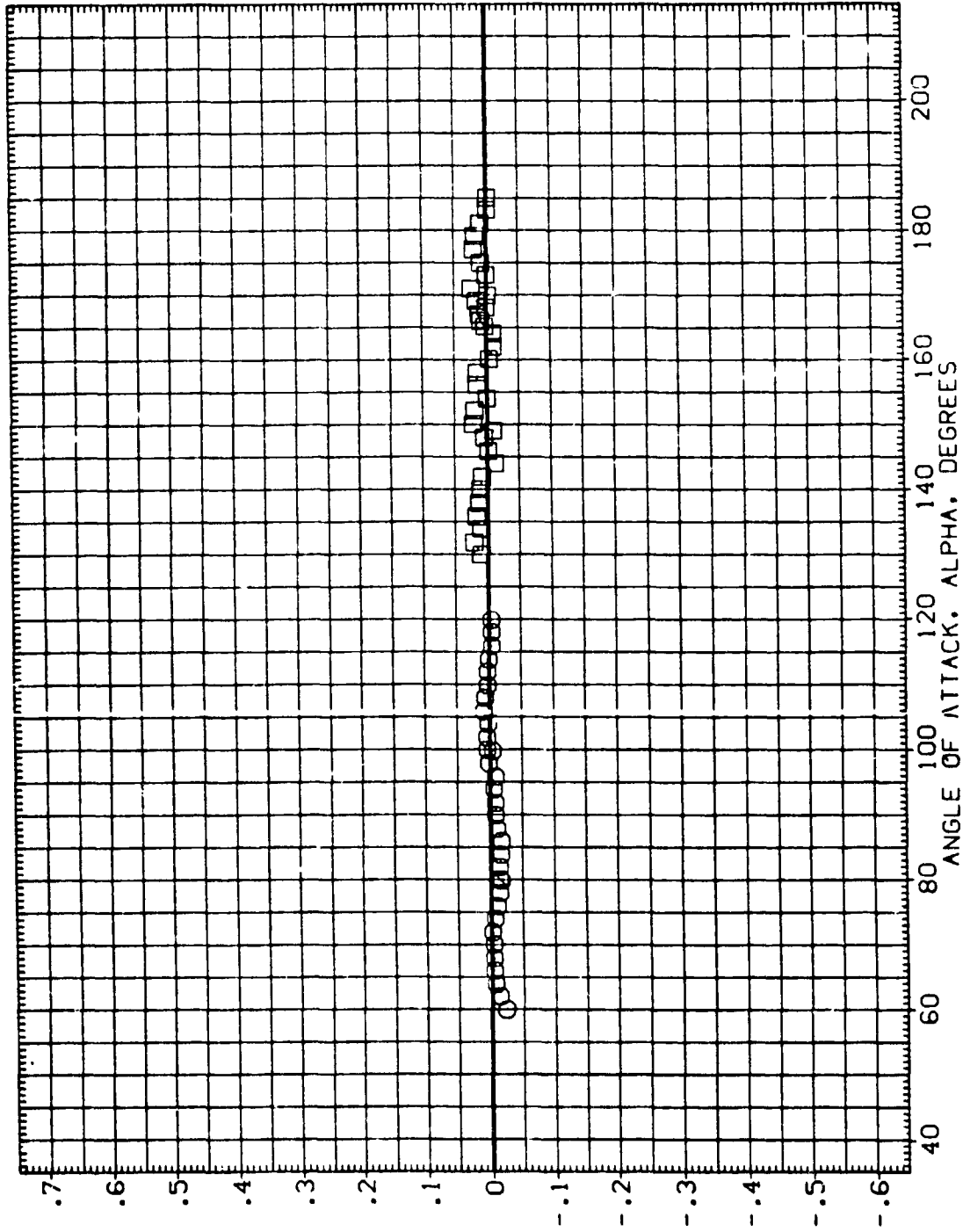
NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YNM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(C)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(RIJ210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)
 (A)MACH = 1.95

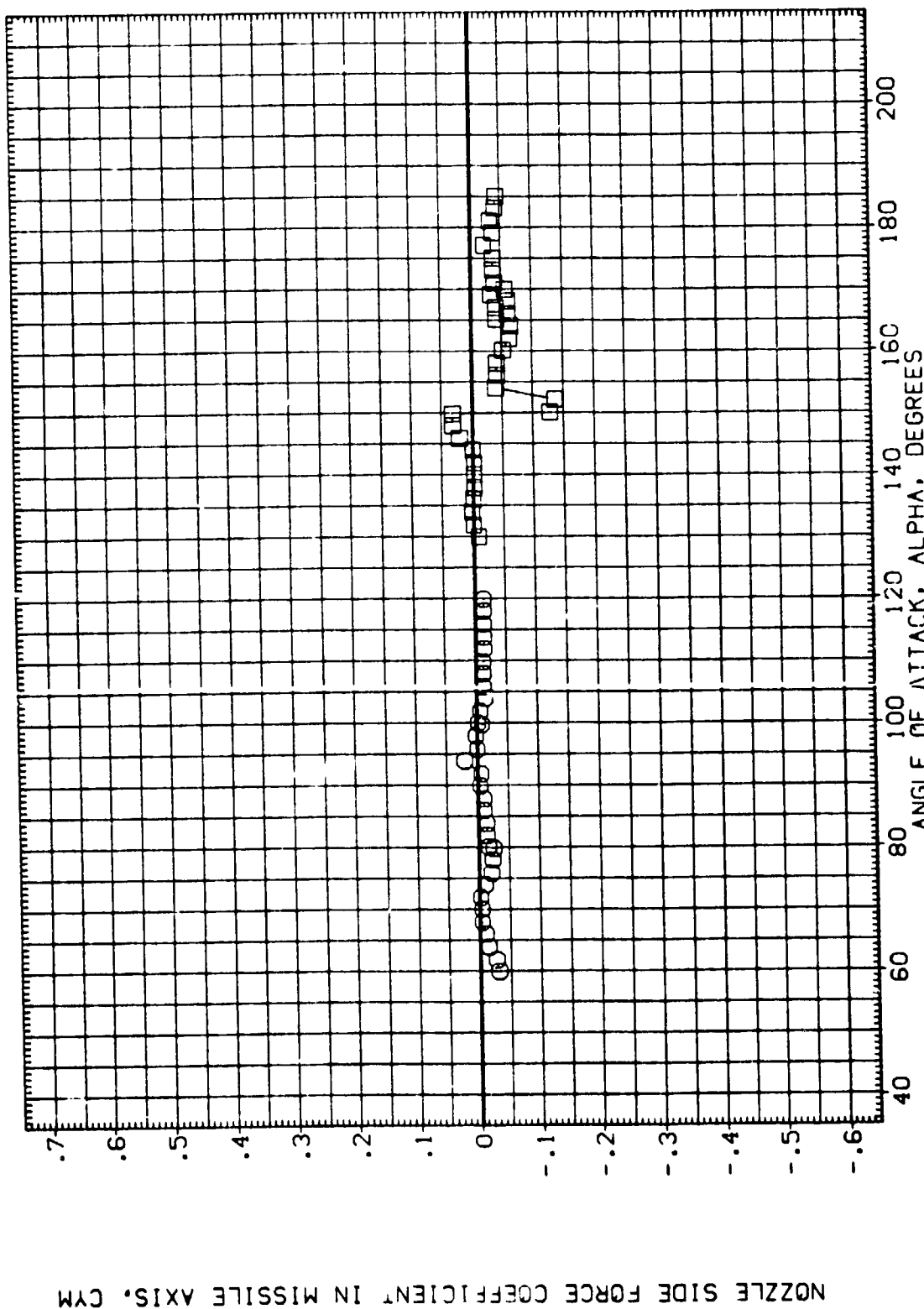
DATA SET SYMBOL
 (R1J209)
 (R1J210)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

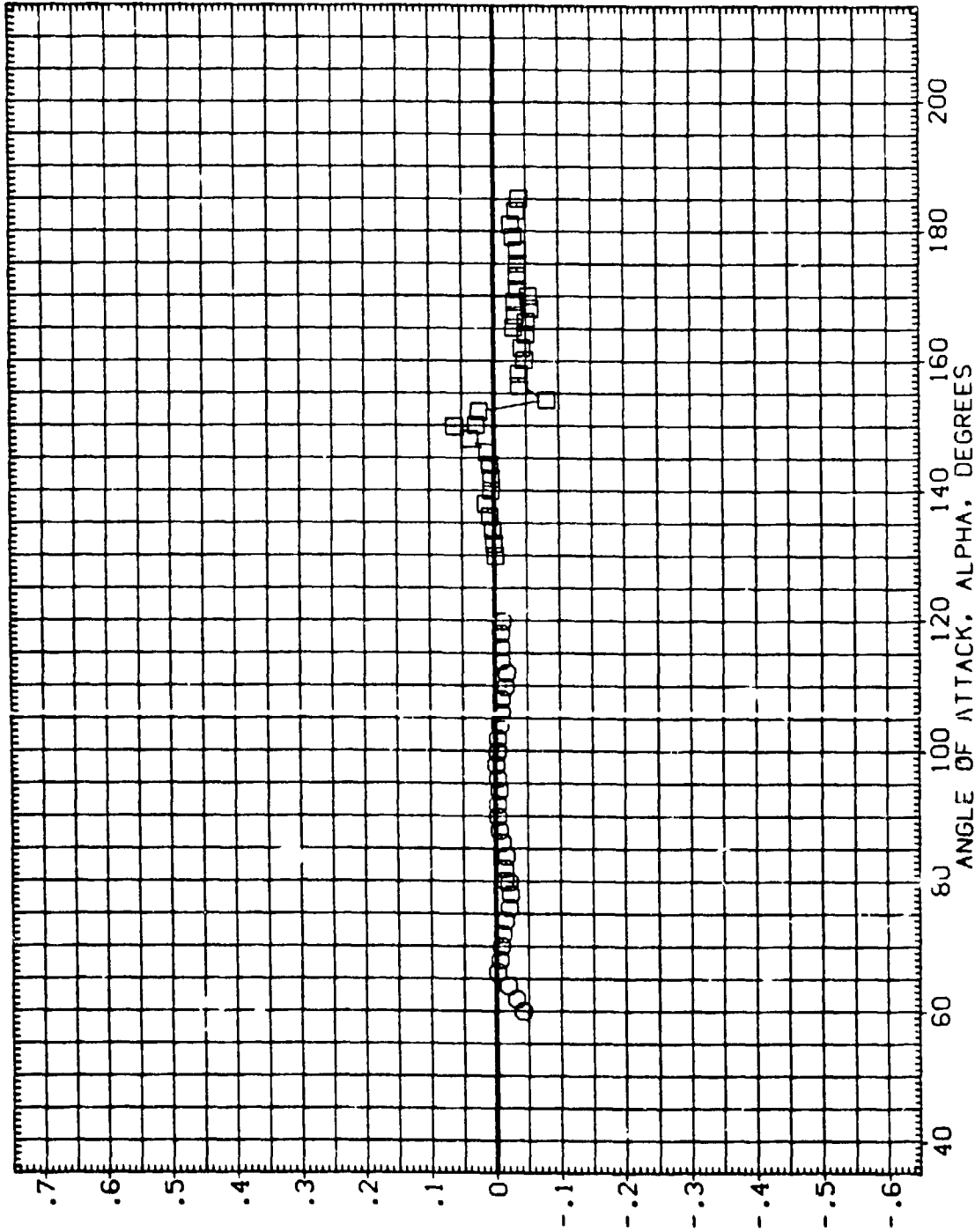
PHI
 180.000
 180.000

GIMBAL
 5.000
 5.000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ209)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	SREF 115.6900 SQ.FT.
(RIJ210)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT	180.000	5.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. YN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON SKIRT (GIMBAL=5.0)

(C)MACH = 3.48

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REFERENCE INFORMATION

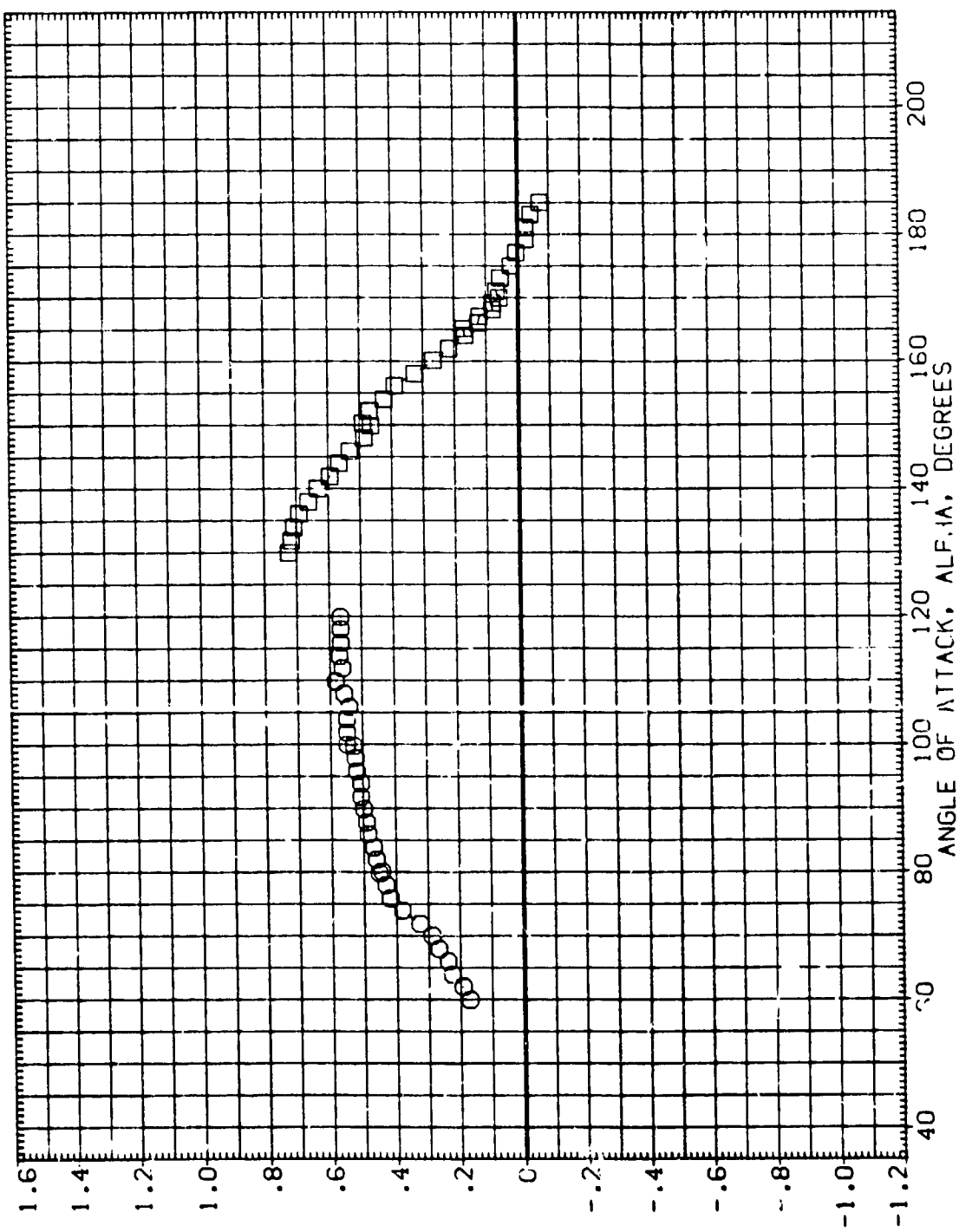
SREF	115.6900	SO.FT.
LREF	145.6400	IN.
BREF	145.6400	IN.
YMRP	114.1950	IN. XN
ZMRP	.0000	IN. YN
SCALE	.0055	IN. ZN

GIMBAL

PHI	180.000
GIMBAL	.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RIJ211)	MSFC TWT 611 (SA30F) SR8 - HEAT SHIELD ON NOZZLE
(RIJ212)	MSFC TWT 611 (SA30F) SR8 - HEAT SHIELD ON NOZZLE



NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(A)MACH = 1.96

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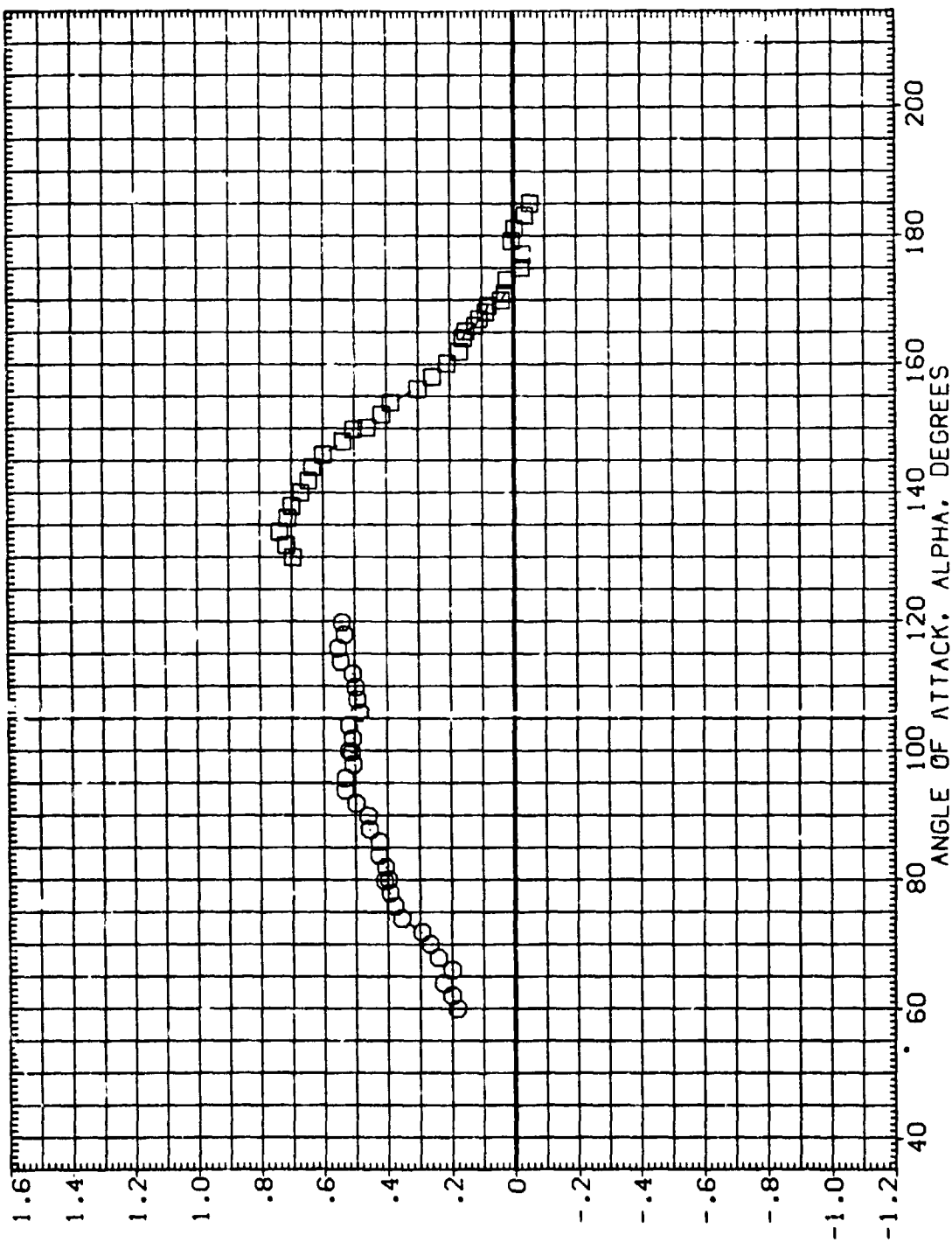
DATA SET SYMBOL (R1J211) (R1J212)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

GIMBAL .000 .000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.4000 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(R)MACH = 2.74

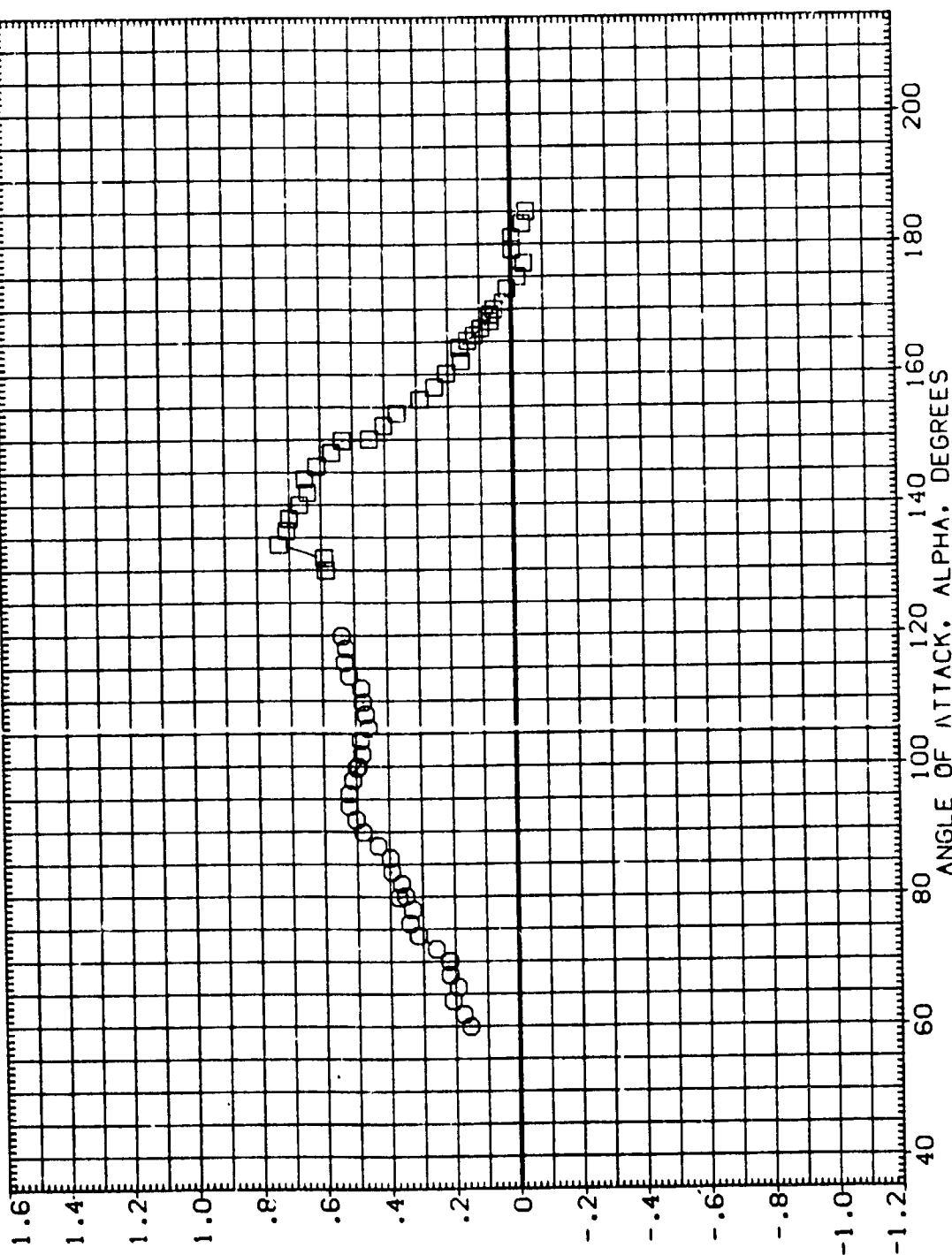
PAGE 92

DATA SET SYMBOL (R1J211) (R1J212)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



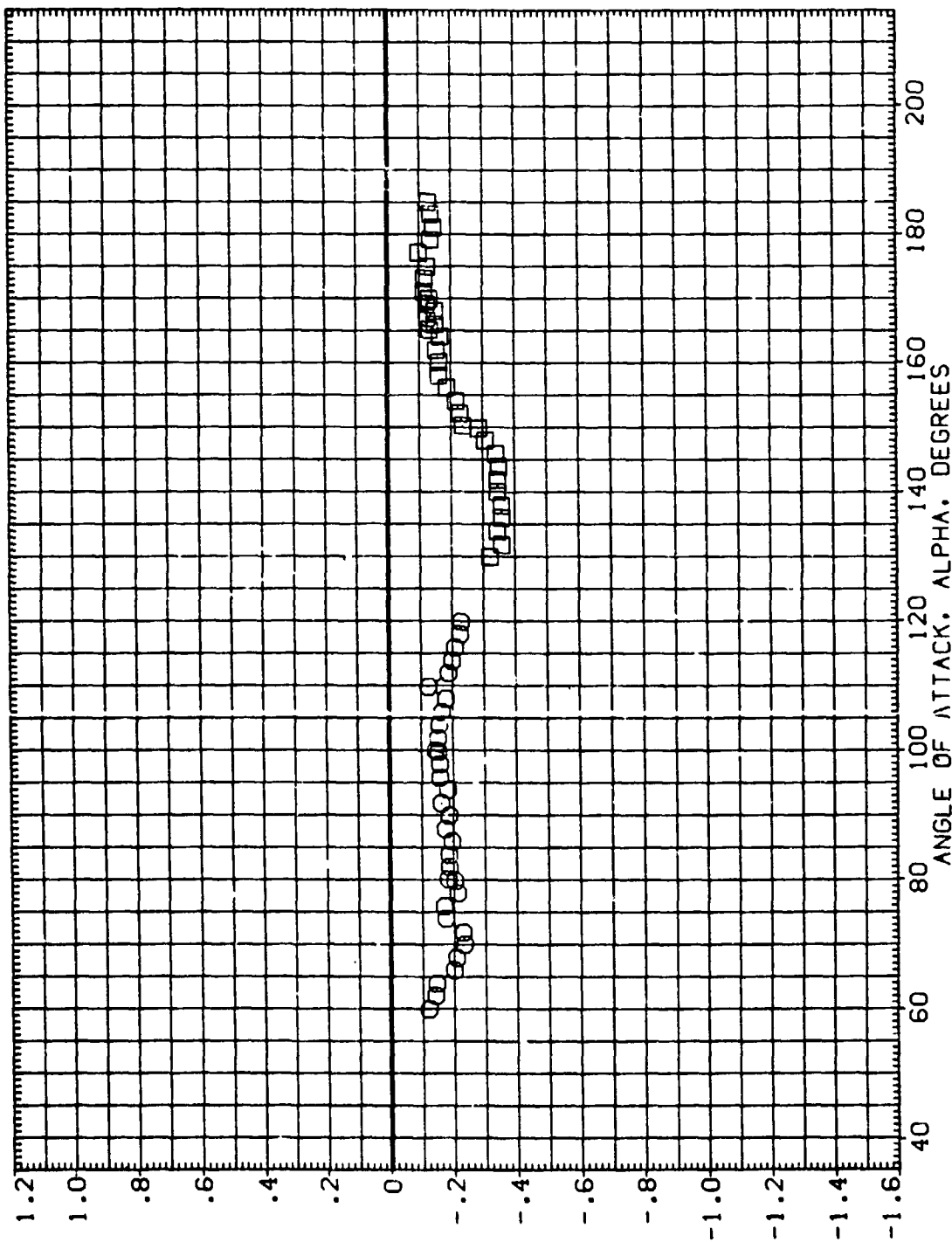
NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(C)MACH = 3.48

PAGE 93

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J211)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE	180.000	.000	SREF 115.6900 SQ.FT.
(R1J212)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. IN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(A)MACH = 1.96

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DATA SET SYMBOL

(R1J211)

(R1J212)

CONFIGURATION DESCRIPTION

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI

180.000

180.000

GIMBAL

.000

.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

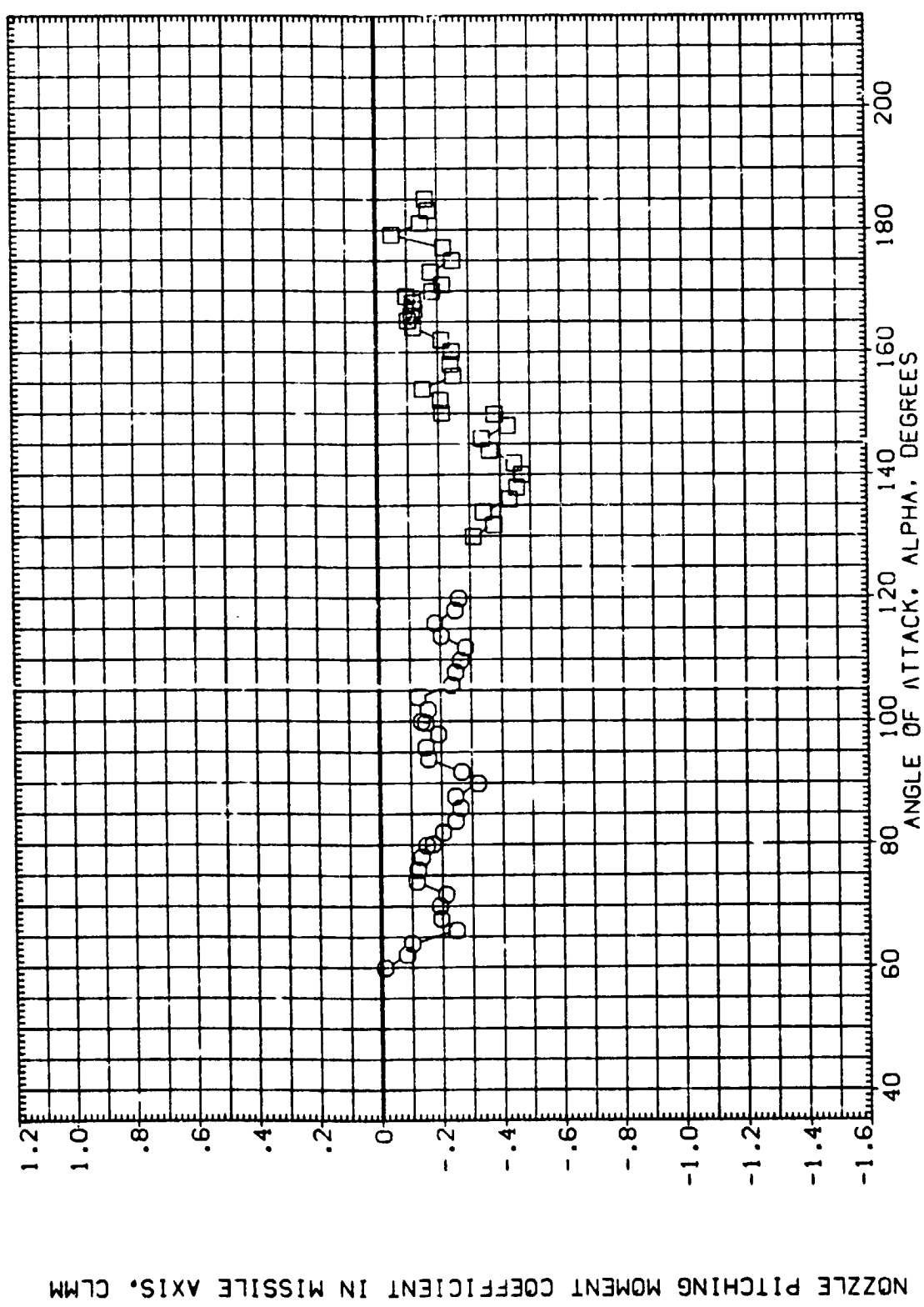
BREF 145.6400 IN.

XN 114.1950 IN.

YN .0000 IN.

ZMRP .0000 IN.

SCALE .0055



DATA S/LT SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(R1J211) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 .000

(R1J212) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 .000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

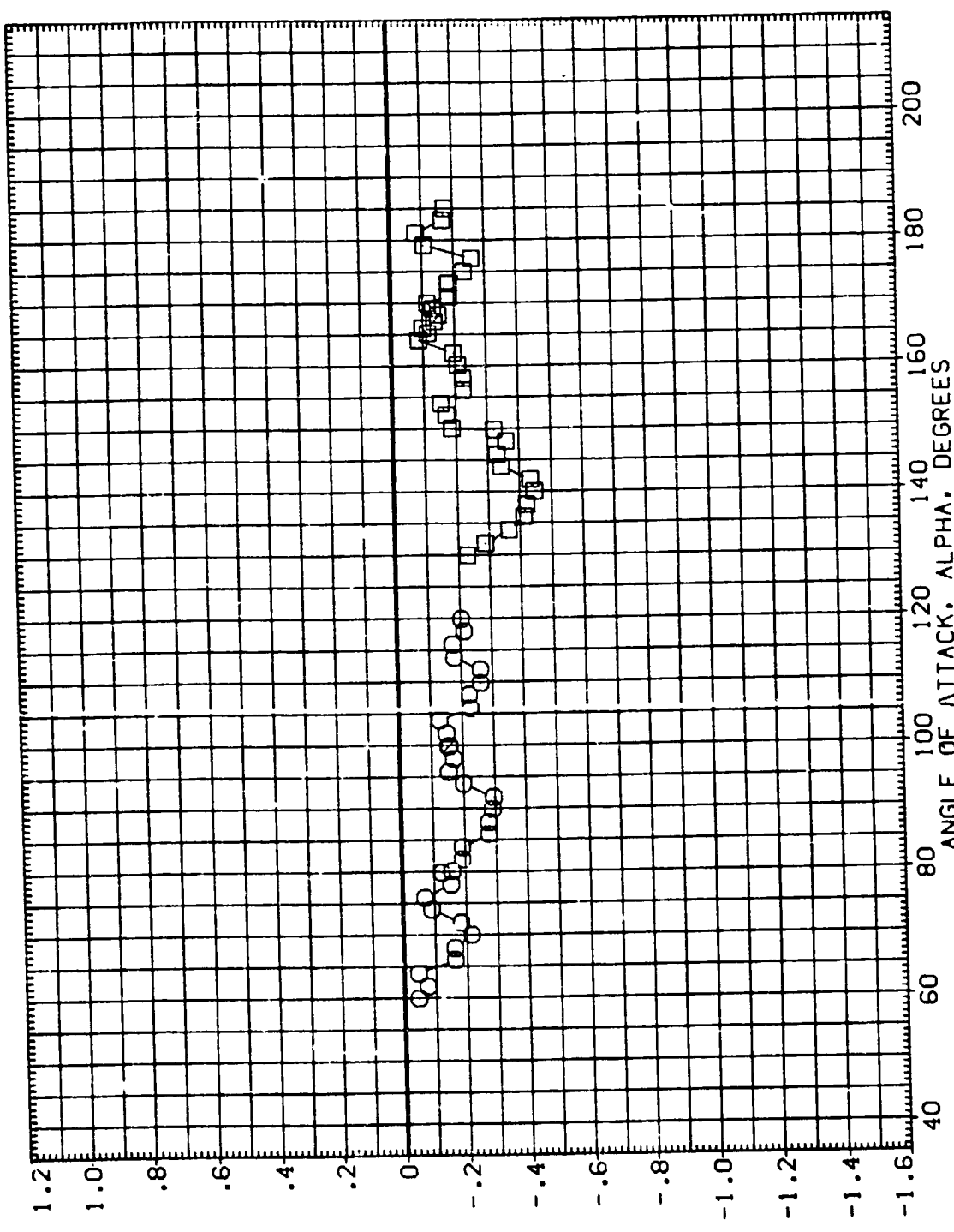
BREF 145.6400 IN.

XMRP 114.1950 IN. XN

YMRP .0000 IN. YN

ZMRP .0000 IN. ZN

SCALE .0055



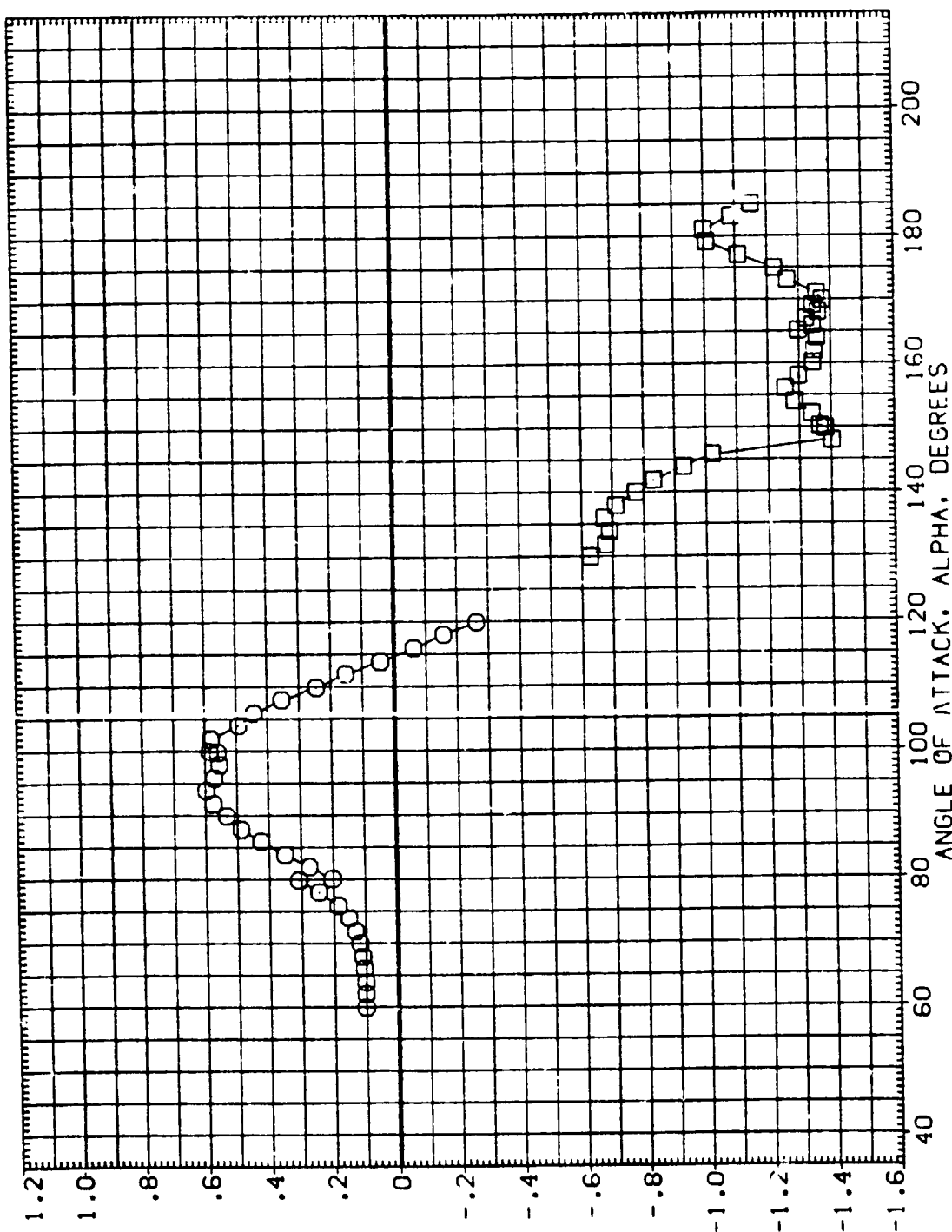
NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(CJ)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH1 GIMBAL
 (RIJ211) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 .0 0
 (RIJ212) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 .003

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055

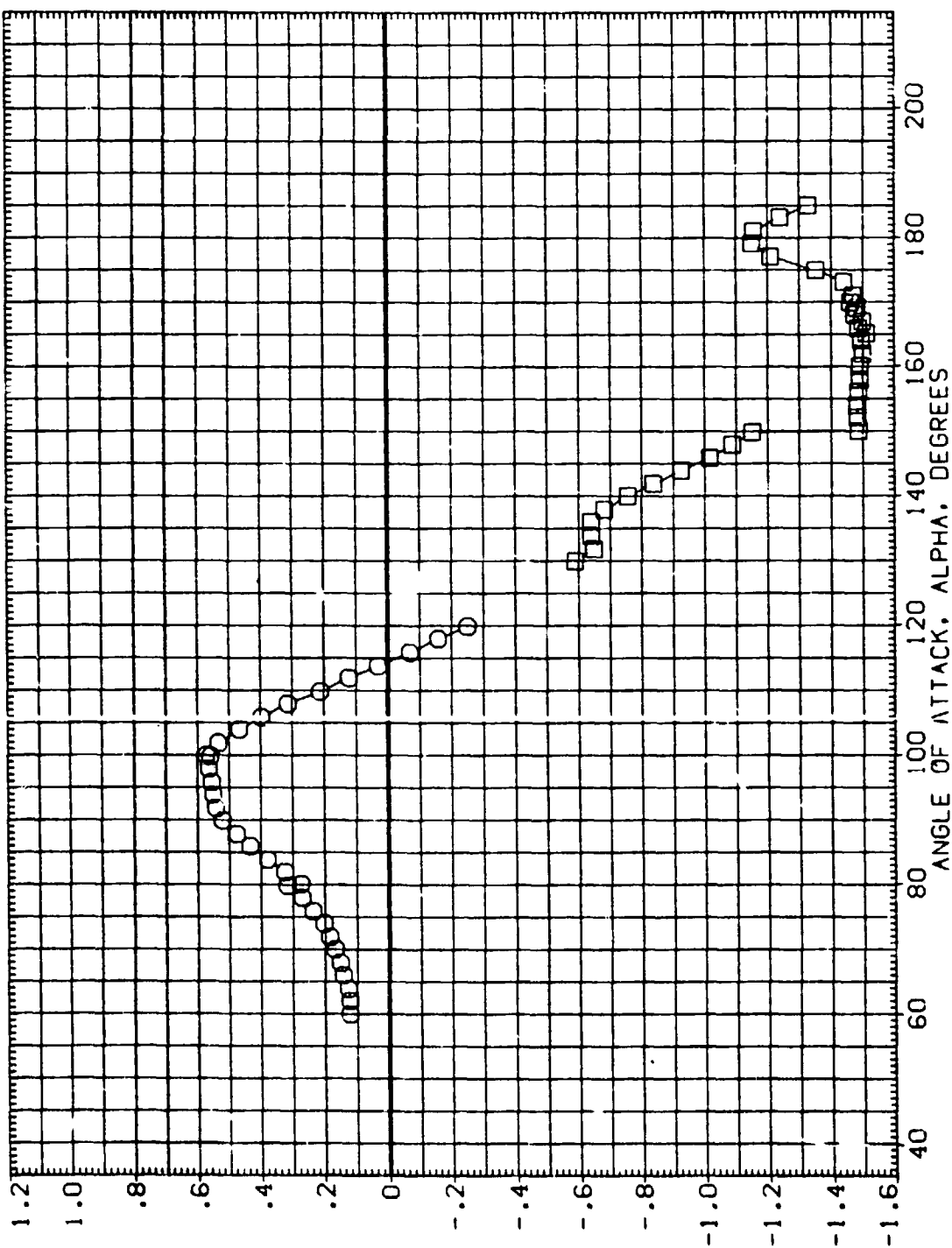


NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(A)MACH = 1.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(RIJ211)	MSFC TW 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE	180.000	.000	SREF 115.6900 SQ.FT.
(RIJ212)	MSFC TW 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XMRP 114.1950 IN. XN
				YMRP .0000 IN. YN
				ZMRP .0000 IN. ZN
				SCALE .0055



NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(B)MACH = 2.74

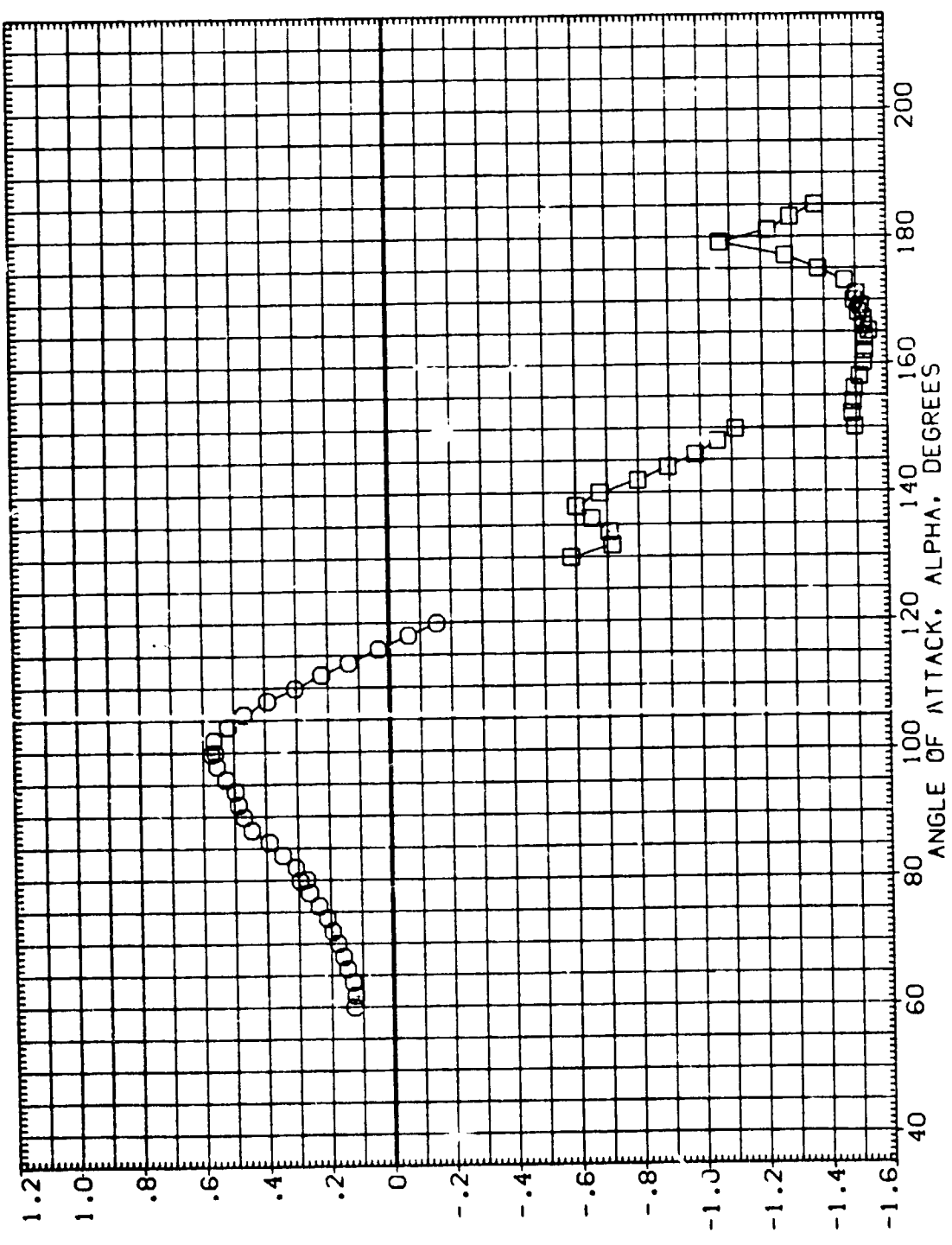
DATA SET SYMBOL (RIJ211) (RIJ212)

CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

GIMBAL .000 .000

REFERENCE INFORMATION SREF 115.6900 50.FT. LREF 145.6400 IN. BREF 145.6400 IN. XN 114.1950 IN. YN .0000 IN. ZN .0000 IN. SCALE .0055

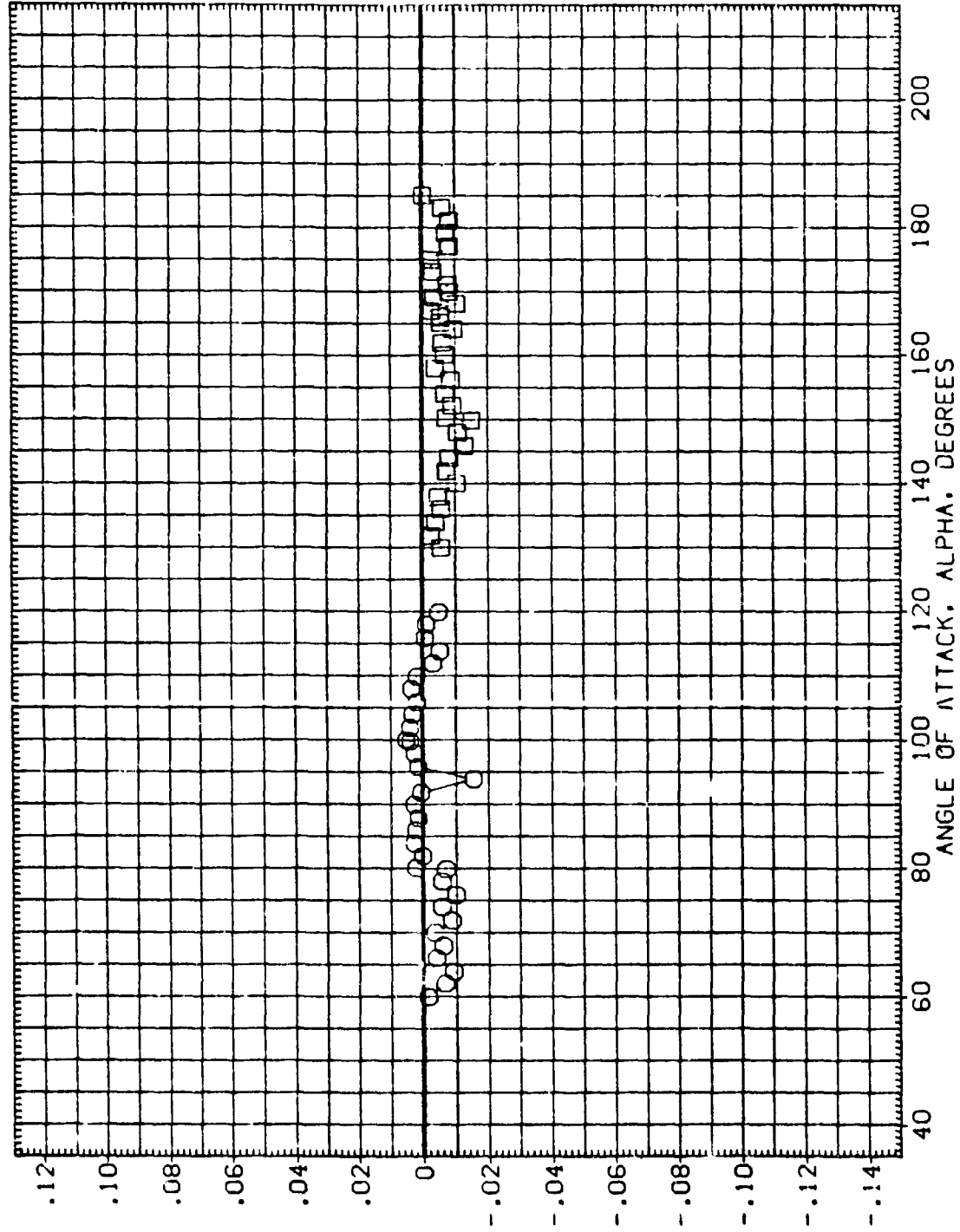


STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(CJ)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	GIMBAL	REFERENCE INFORMATION
(R1J211)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE	180.000	.000	SREF 115.6900 SQ.FT.
(R1J212)	MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE	180.000	.000	LREF 145.6400 IN.
				BREF 145.6400 IN.
				XHRP 114.1950 IN. XN
				YHRP .0000 IN. YN
				ZHRP .0000 IN. ZN
				SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(A)MACH = 1.96

PAGE 100

DATA SET SYMBOL
(R1J211)
(R1J212)

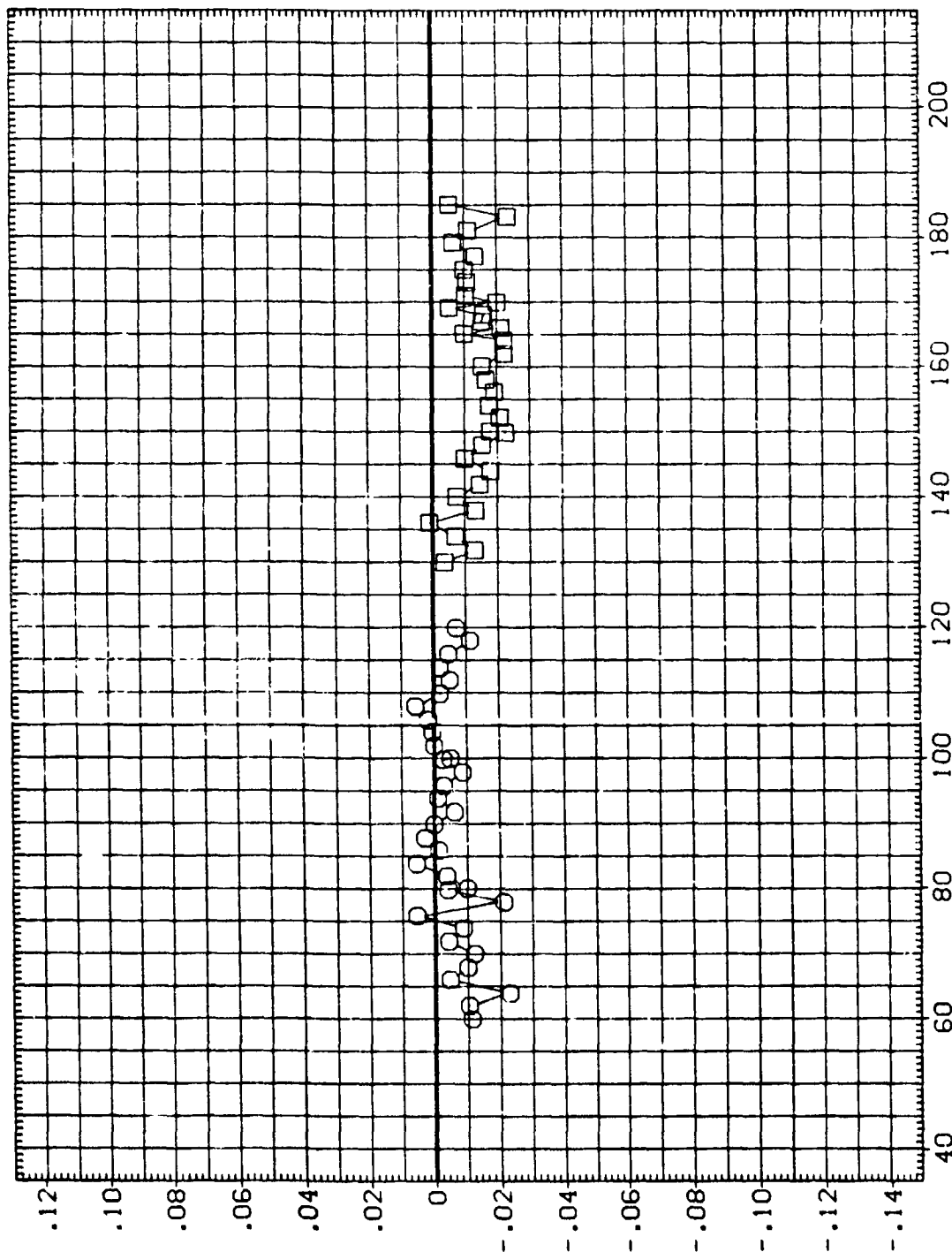
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(B)MACH = 2.74

PAGE 101

DATA SET SYMBOL
(R1J211)
(R1J212)

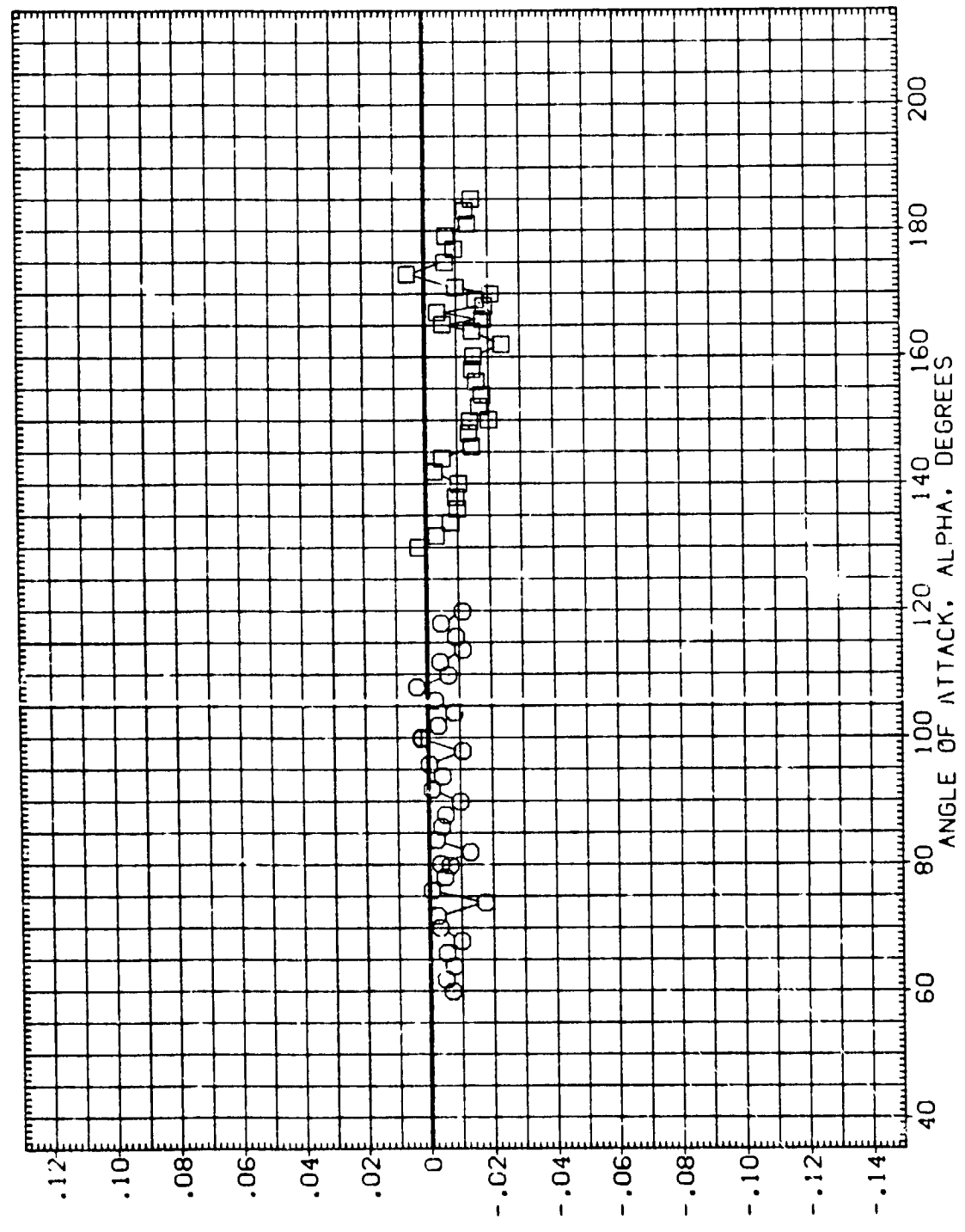
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
190.000
130.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 50.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(C)MACH = 3.48

DATA SET SYMBOL
(RIJ211)
(RIJ212)

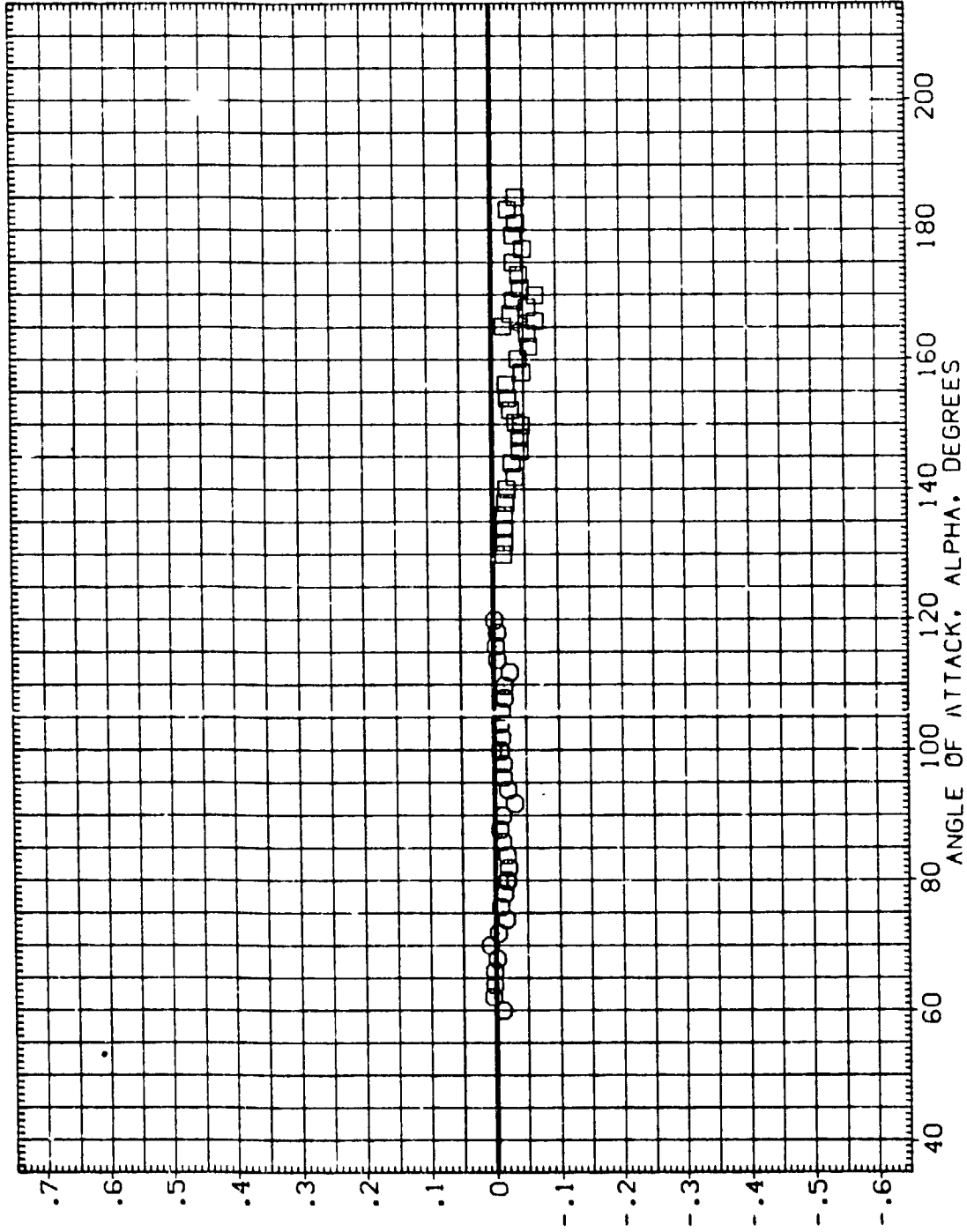
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XN 114.1950 IN.
YHRP .0000 IN.
ZHRP .0000 IN.
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

CAJ MACH = 1.96

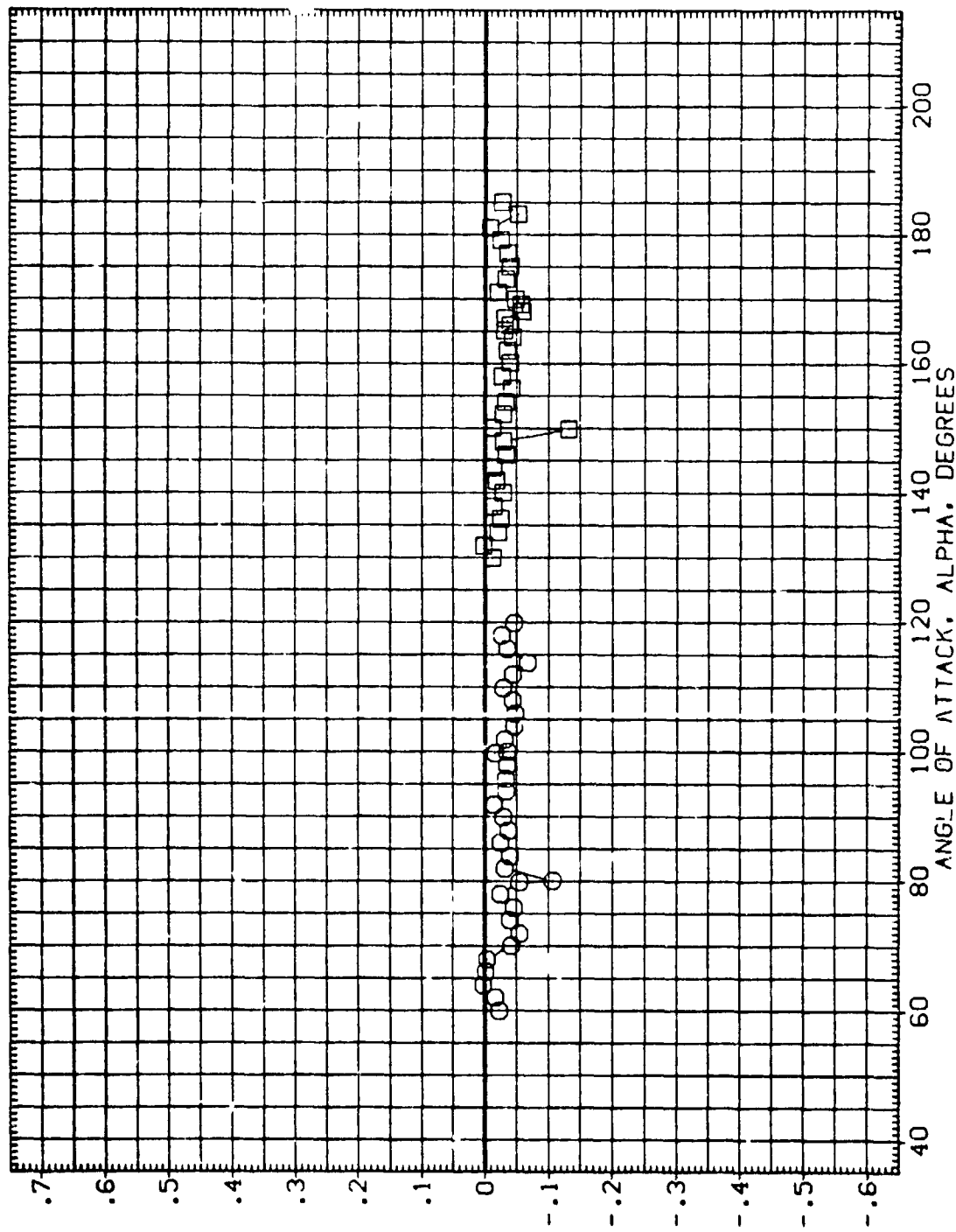
PAGE 103

DATA SET SYMBOL (R1J211) (R1J212)

CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(B)MACH = 2.74

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DATA SET SYMBOL
(R1J211)
(R1J212)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

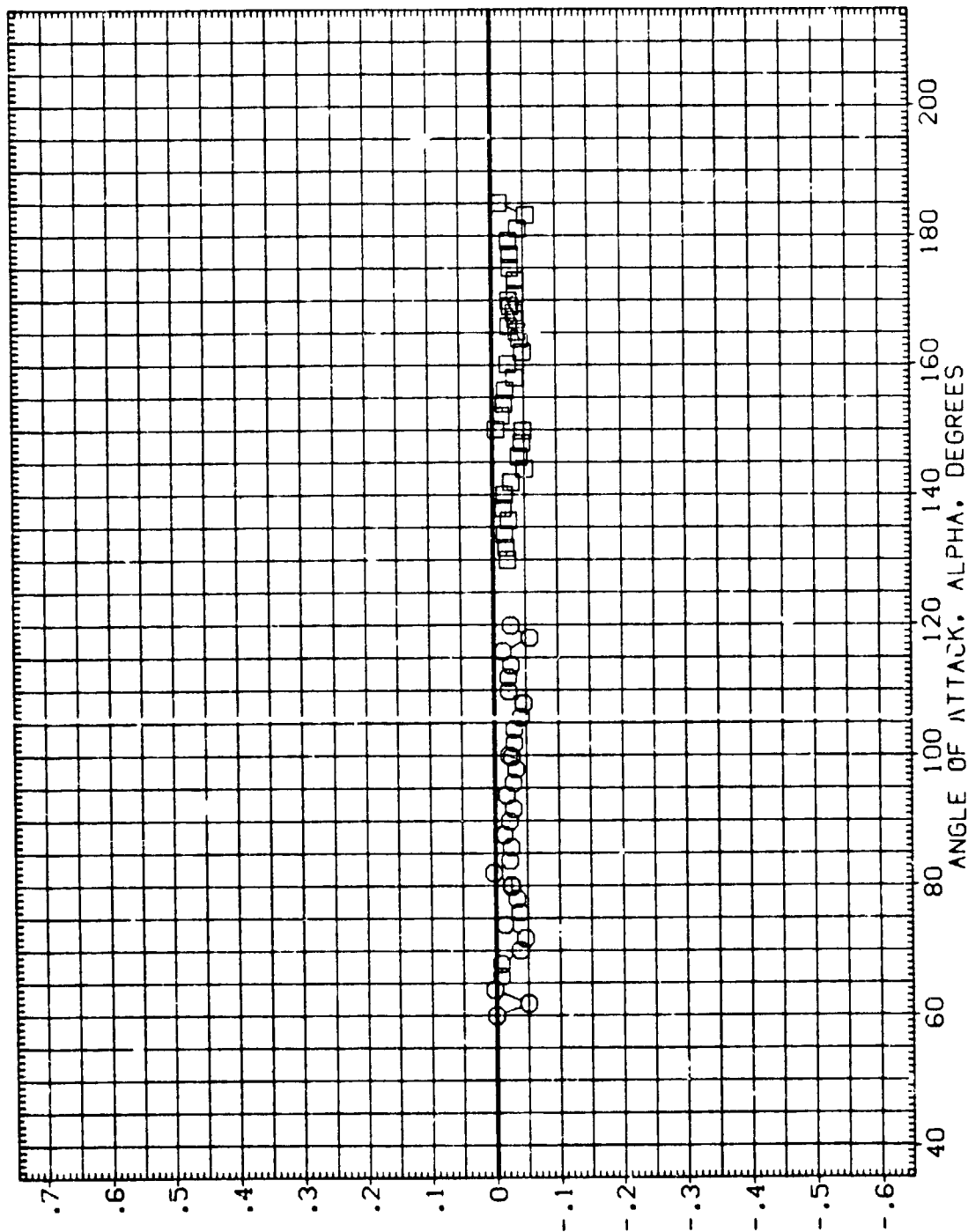
PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XN 114.1950 IN.
YN .0000 IN.
ZN .0000 IN.
ZMRP .0055
SCALE

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(C)MACH = 3.48

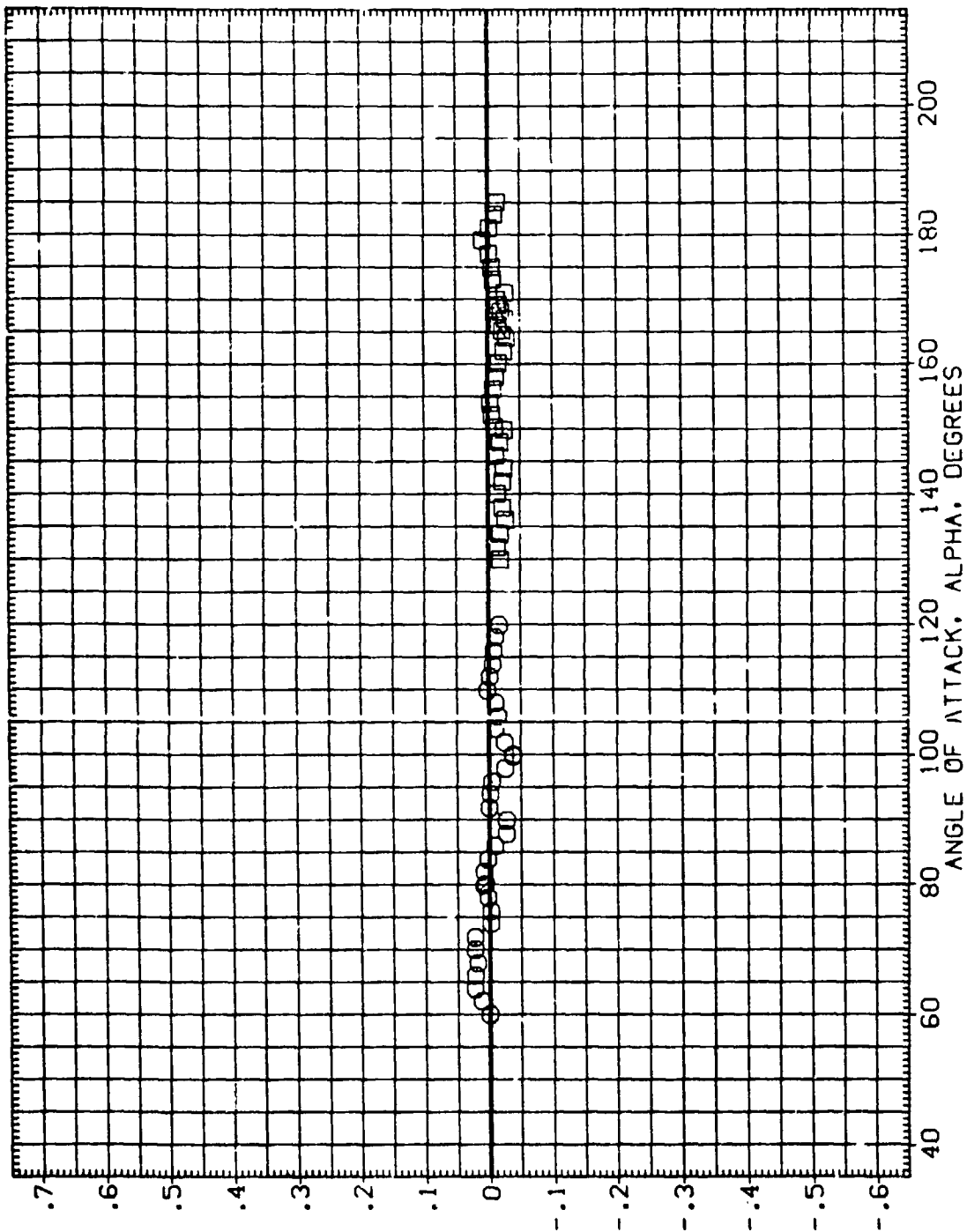
PAGE 105

DATA SET SYMBOL (R1J211) (R1J212)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000
GIMBAL .000 .000

REFERENCE INFORMATION
SREF 115.6900 SO. FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(A)MACH = 1.96

PAGE 106

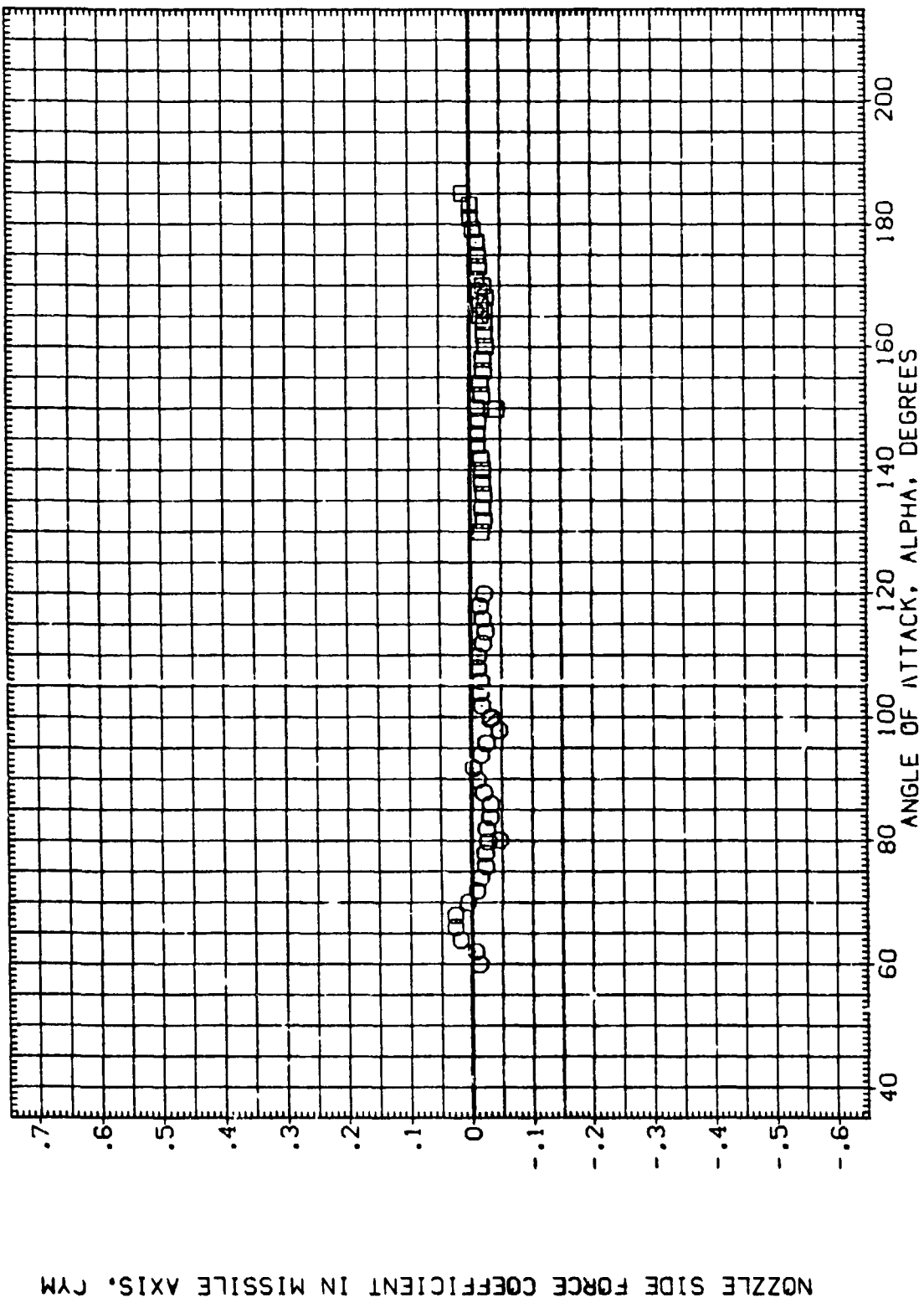
DATA SET SYMBOL
(RIJ211)
(RIJ212)

CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
.000
.000

REFERENCE INFORMATION
SREF 115.6900 SO.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(B)MACH = 2.74

PAGE 107

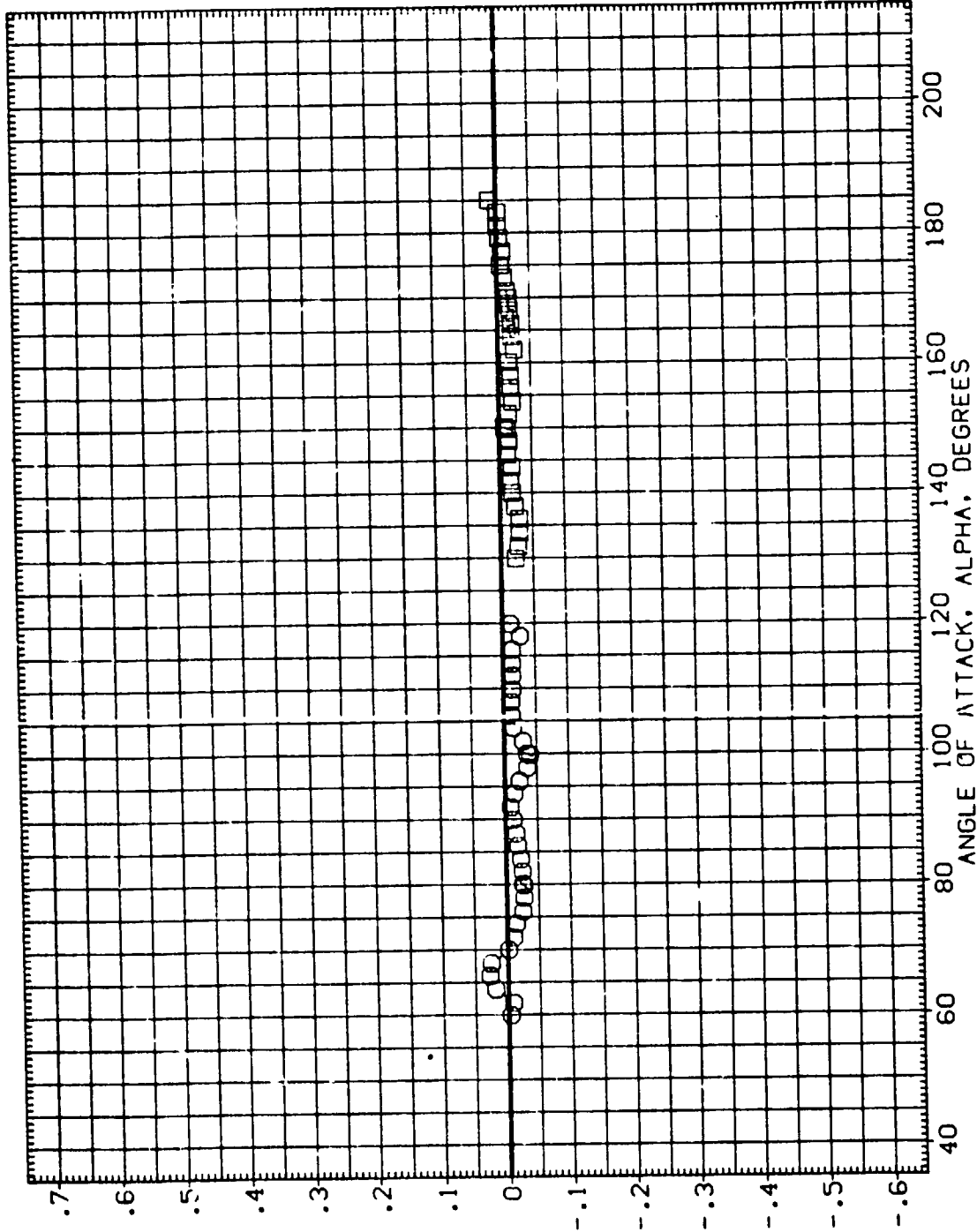
DATA SET SYMBOL (RIJ211) (RIJ212)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XM
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

PHI 180.000
GIMBAL .000

NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=0.0)

(C)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(RIJ213) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

(RIJ214) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

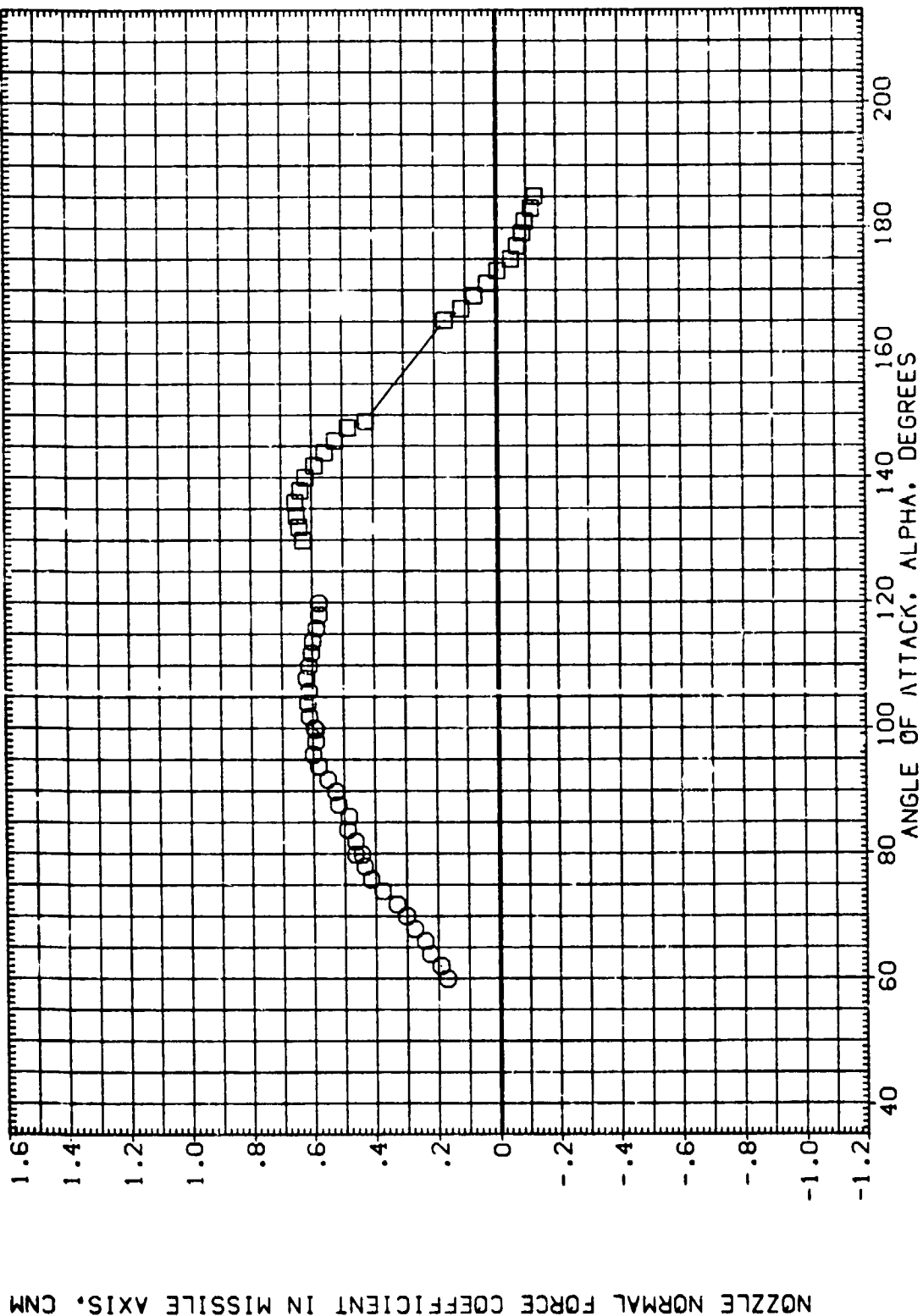
BREF 145.6400 IN.

XHRP 114.1950 IN. YN

YHRP .0000 IN. YN

ZHRP .0000 IN. ZN

SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(A)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(R1J213) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

(R1J214) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

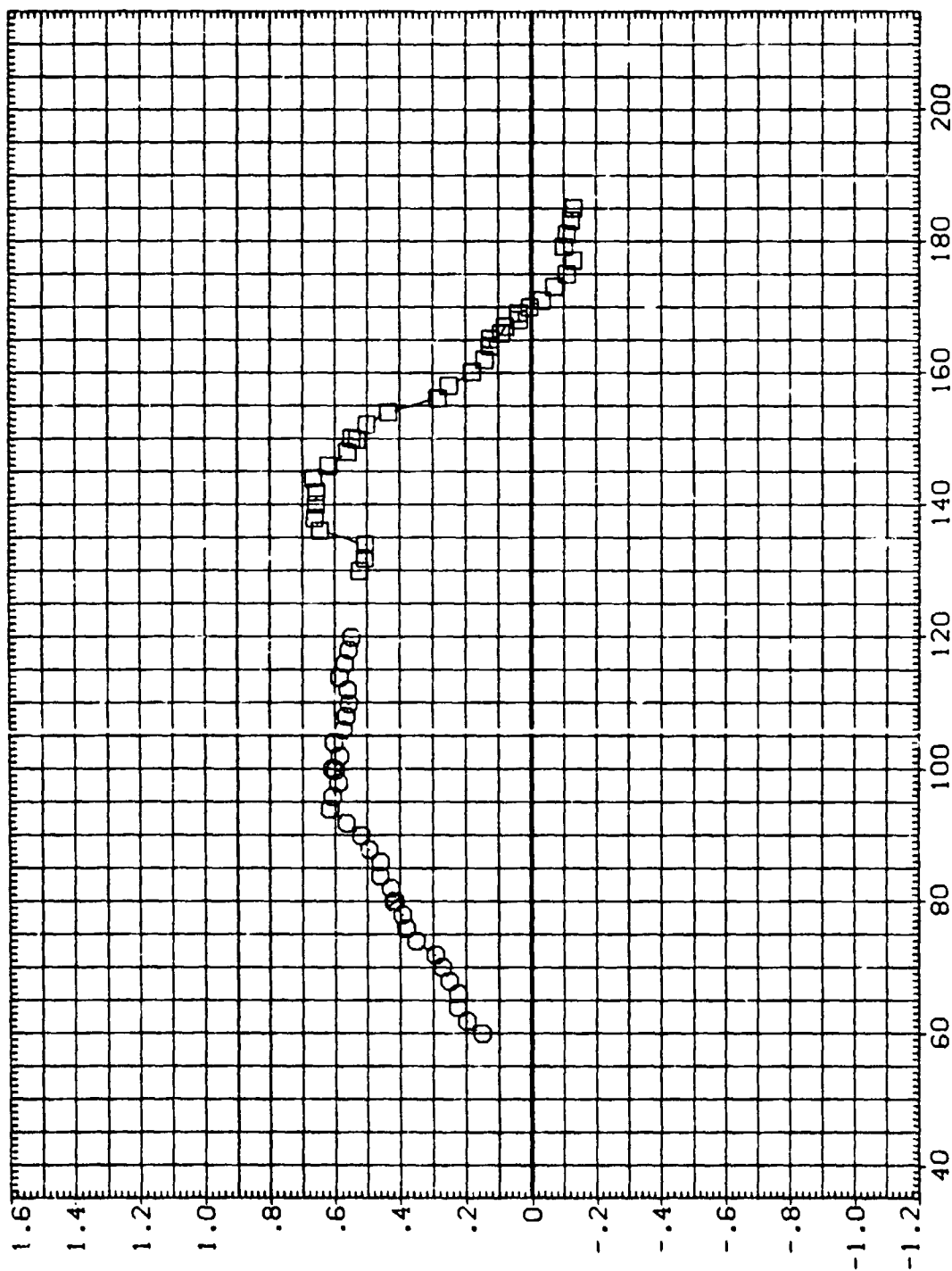
BREF 145.6400 IN.

XMRP 114.1950 IN. XN

YMRP .0000 IN. YN

ZMRP .0000 IN. ZN

SCALE .0055



NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE. HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(B)MACH = 2.74

PAGE 110

DATA SET SYMBOL
(RIJ213)
(RIJ214)

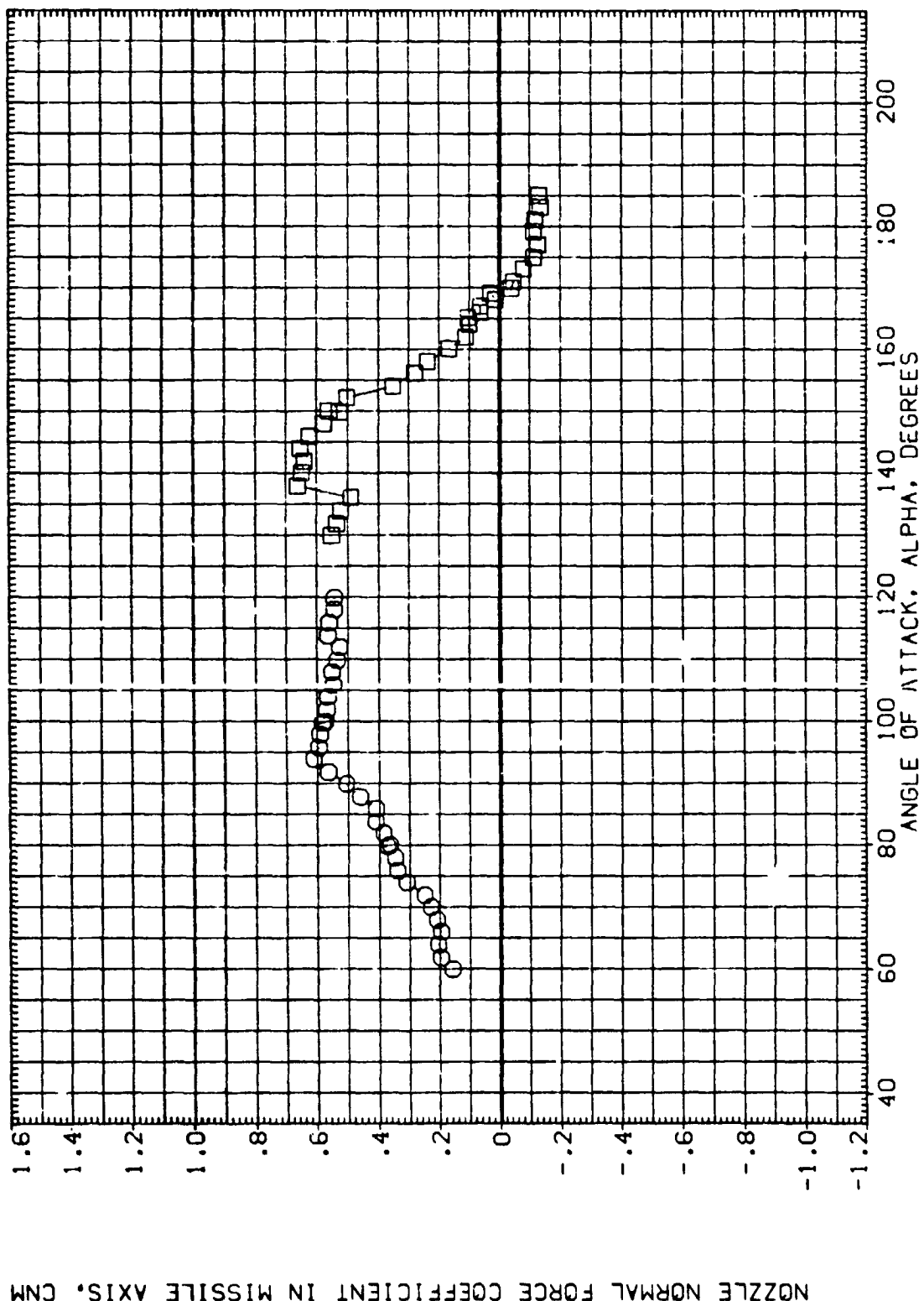
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0055



NOZZLE NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(C)MACH = 3.48

PAGE 111

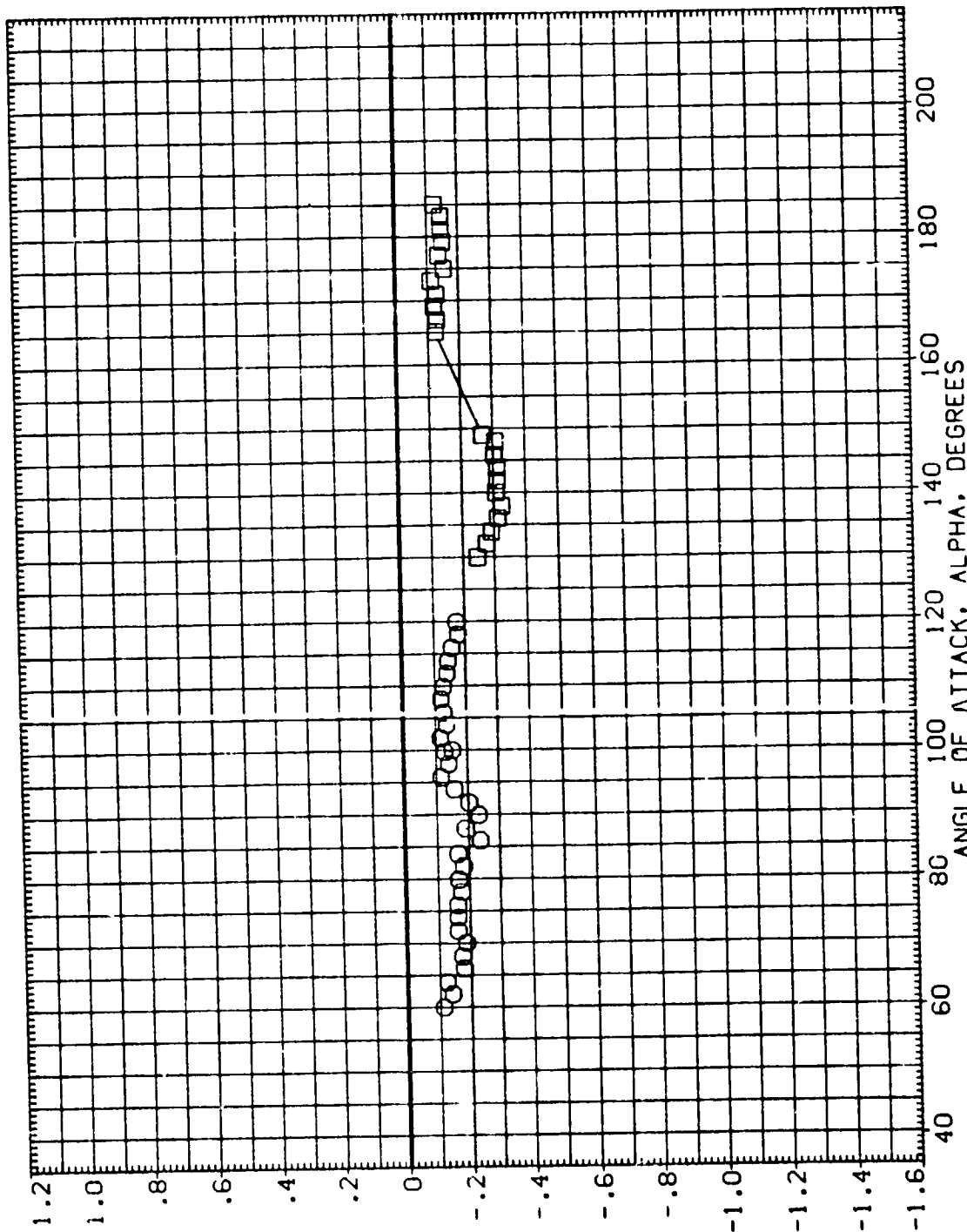
DATA SET SYMBOL (R1J213) 8
 (R1J214)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000
 GIMBAL 5.000 5.000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XN 114.1950 IN.
 YN .0000 IN.
 ZN .0000 IN.
 SCALE .0055

NOZZLE PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(A)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(RIJ213) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

(RIJ214) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

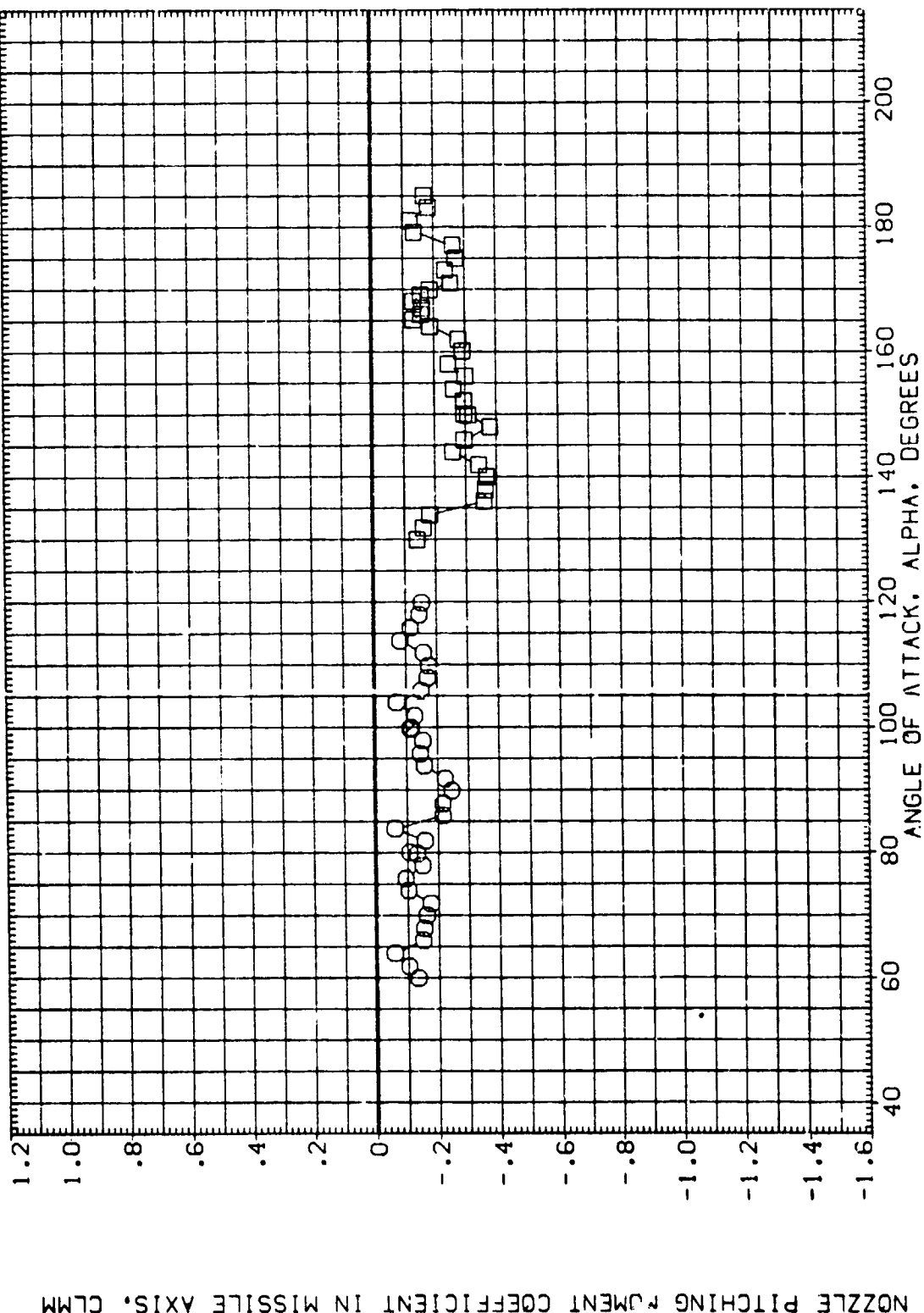
BREF 145.6400 IN.

XMRP 114.1950 IN. XM

YMRP .0000 IN. YN

ZMRP .0000 IN. ZN

SCALE .0055



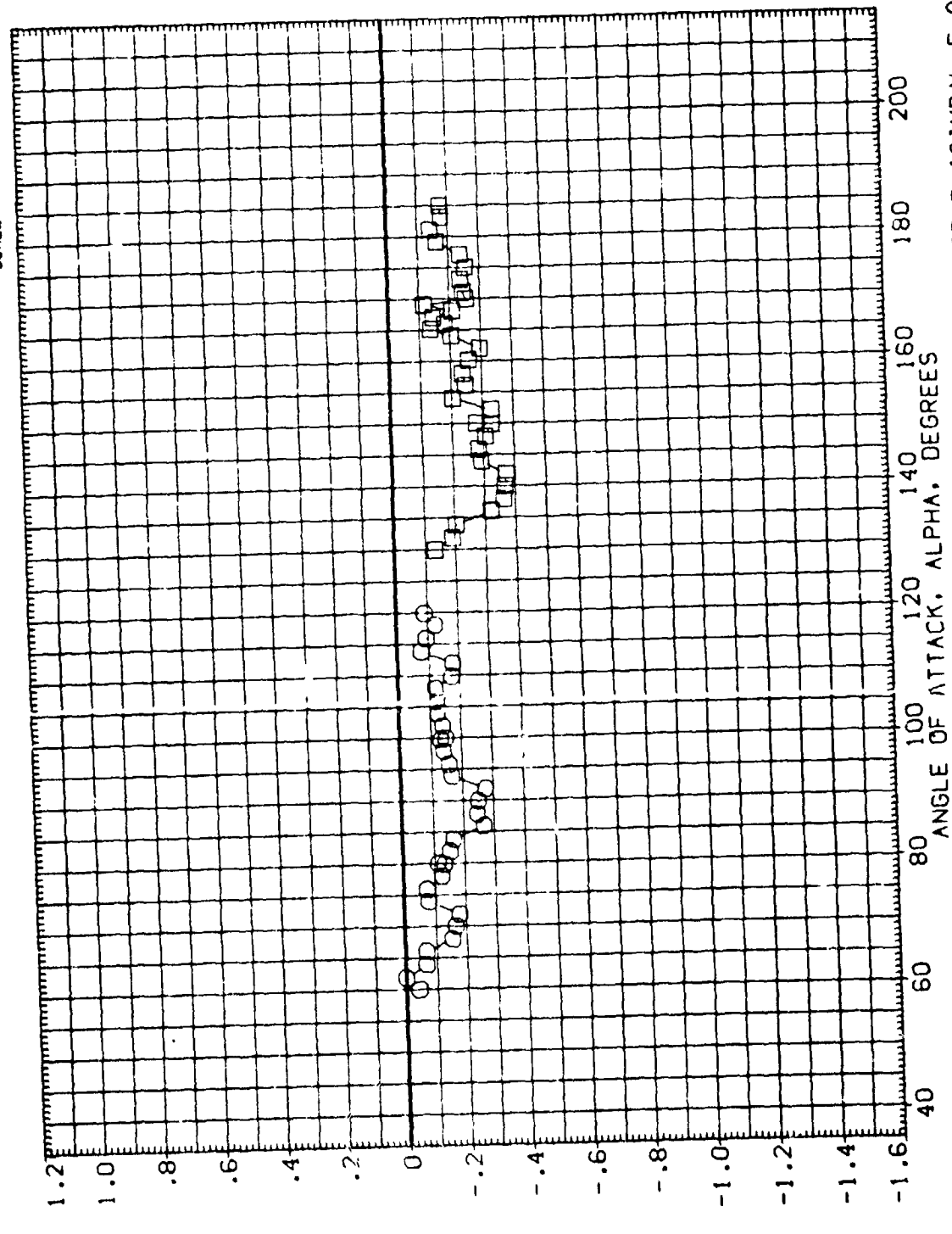
STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(B)MACH = 2.74

REFERENCE INFORMATION
 SREF 115.6900 SO.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055

GIMBAL
 PHI 180.000
 5.000
 5.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RIJ213) MSFC TW 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
 (RIJ214) MSFC TW 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(CJMACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(RIJ213) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

(RIJ214) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

REFERENCE INFORMATION

SREF 115.6900 SQ.FT.

LREF 145.6400 IN.

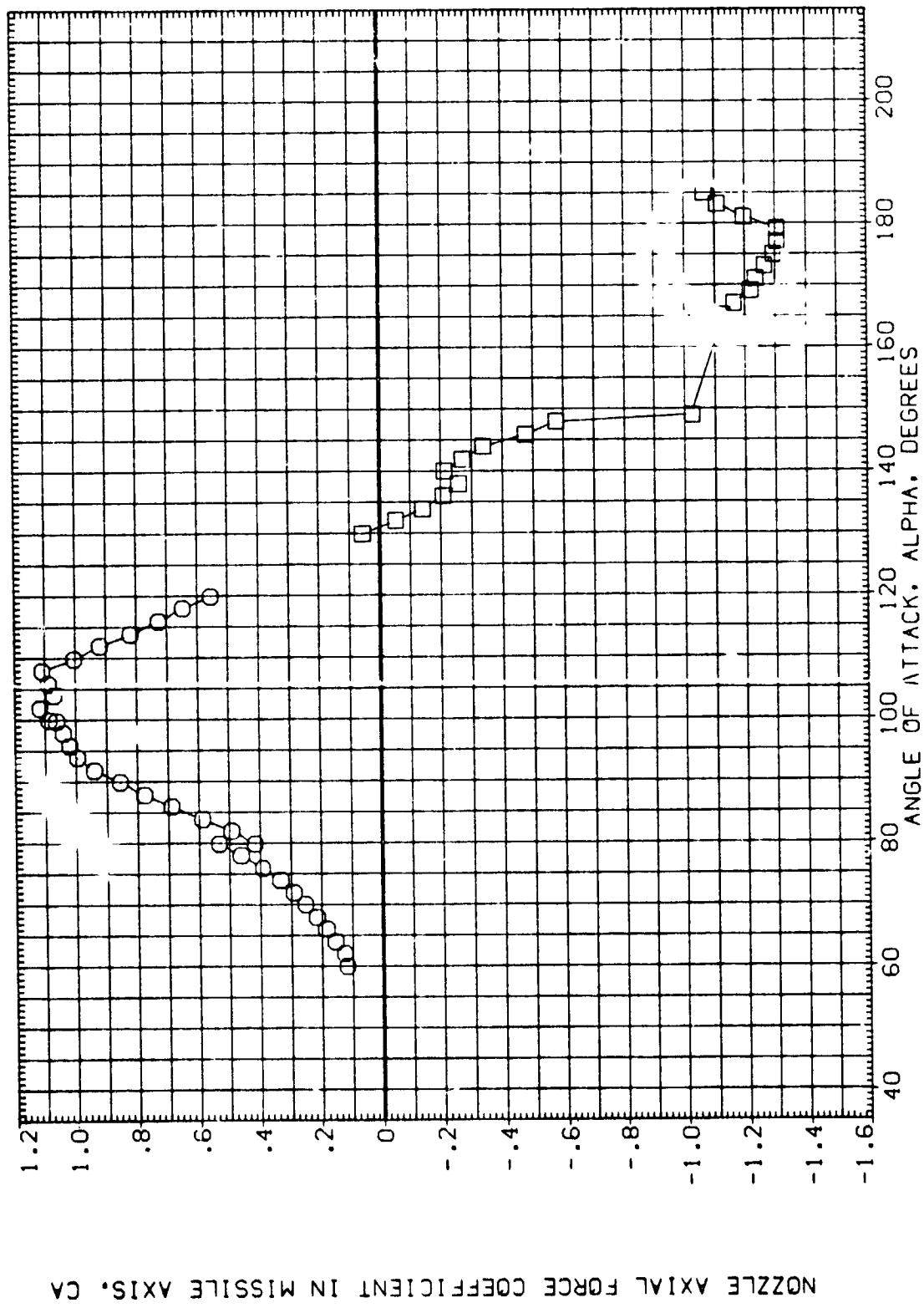
BREF 145.6400 IN.

XMRP 114.1950 IN. XN

YMRP .0000 IN. YN

ZMRP .0000 IN. ZN

SCALE .0055



NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(A)MACH = 1.96

REFERENCE INFORMATION

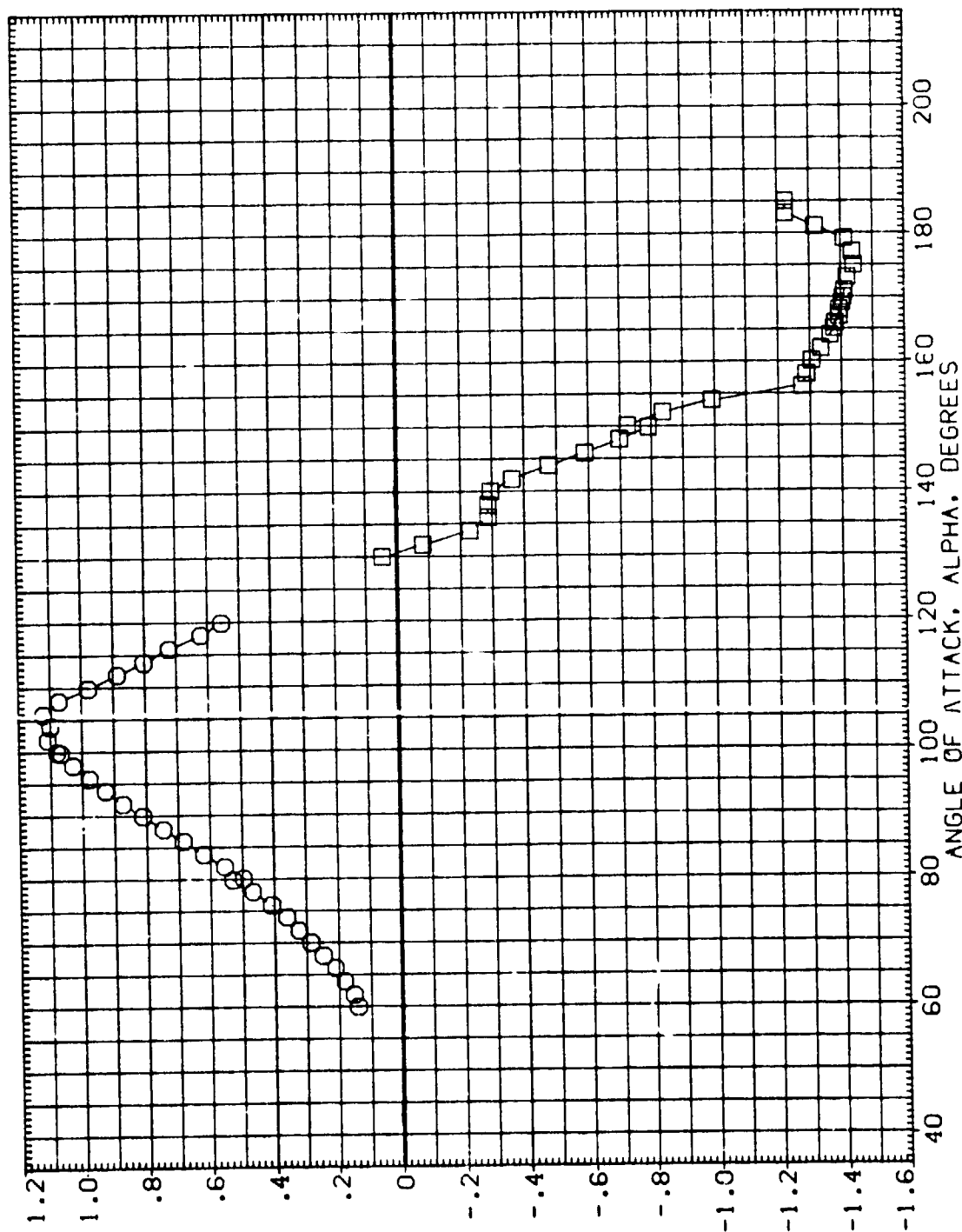
SREF	115.6900	SO.FT.
LREF	145.6400	IN.
BREF	145.6400	IN.
XMRP	114.1950	IN. XN
YMRP	.0000	IN. YN
ZMRP	.0000	IN. ZN
SCALE	.0055	

GIMBAL

PHI	180.000
GIMBAL	5.000

DATA SET SYMBOL

MSFC TWT 611 (SA30F)	SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F)	SRB - HEAT SHIELD ON NOZZLE



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(B)MACH = 2.74

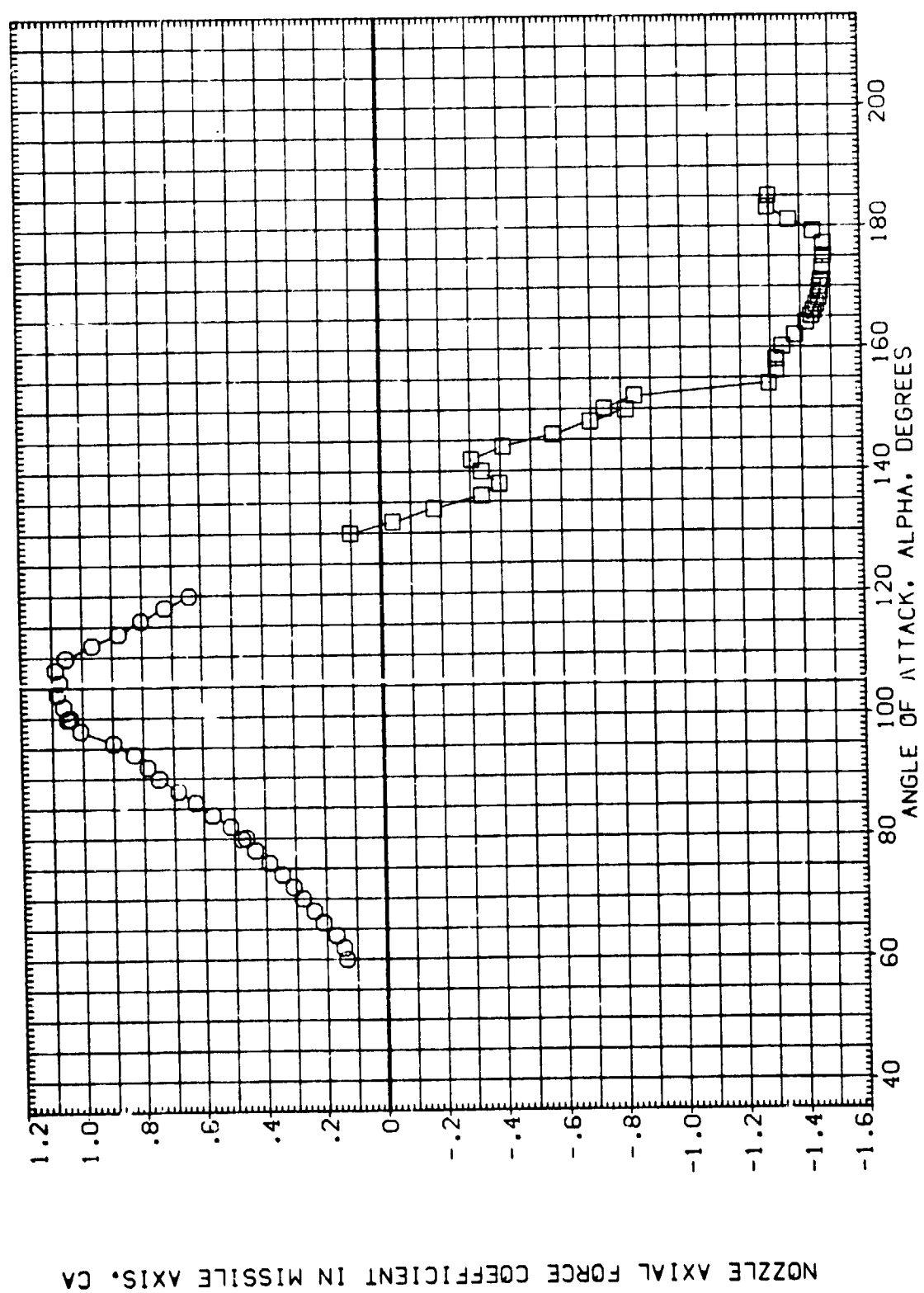
DATA SET SY:60L
(RIJ212)
(RIJ214)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PMI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SPEF 115.6900 SQ.FT.
LREF 145.6400 IN.
SREF 145.6400 IN.
XNRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055



NOZZLE AXIAL FORCE COEFFICIENT IN MISSILE AXIS, CA

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(C)MACH = 3.48

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DATA SET SYMBOL
(RIJ213)
(RIJ214)

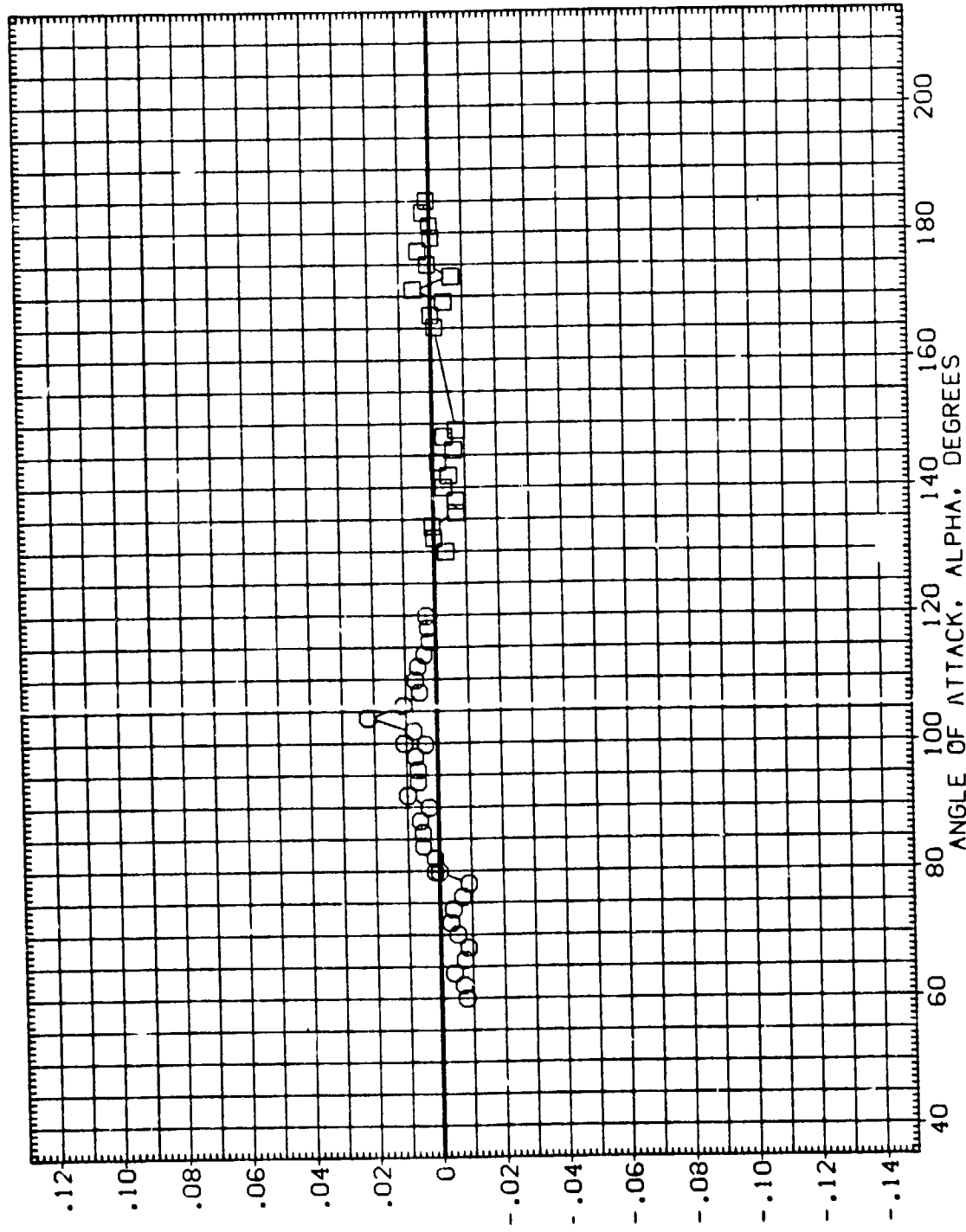
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XHRP 114.1950 IN. XN
YHRP .0000 IN. YN
ZHRP .0000 IN. ZN
SCALE .0053

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(MACH = 1.96

DATA SET SYMBOL
(RIJ213)
(RIJ214)

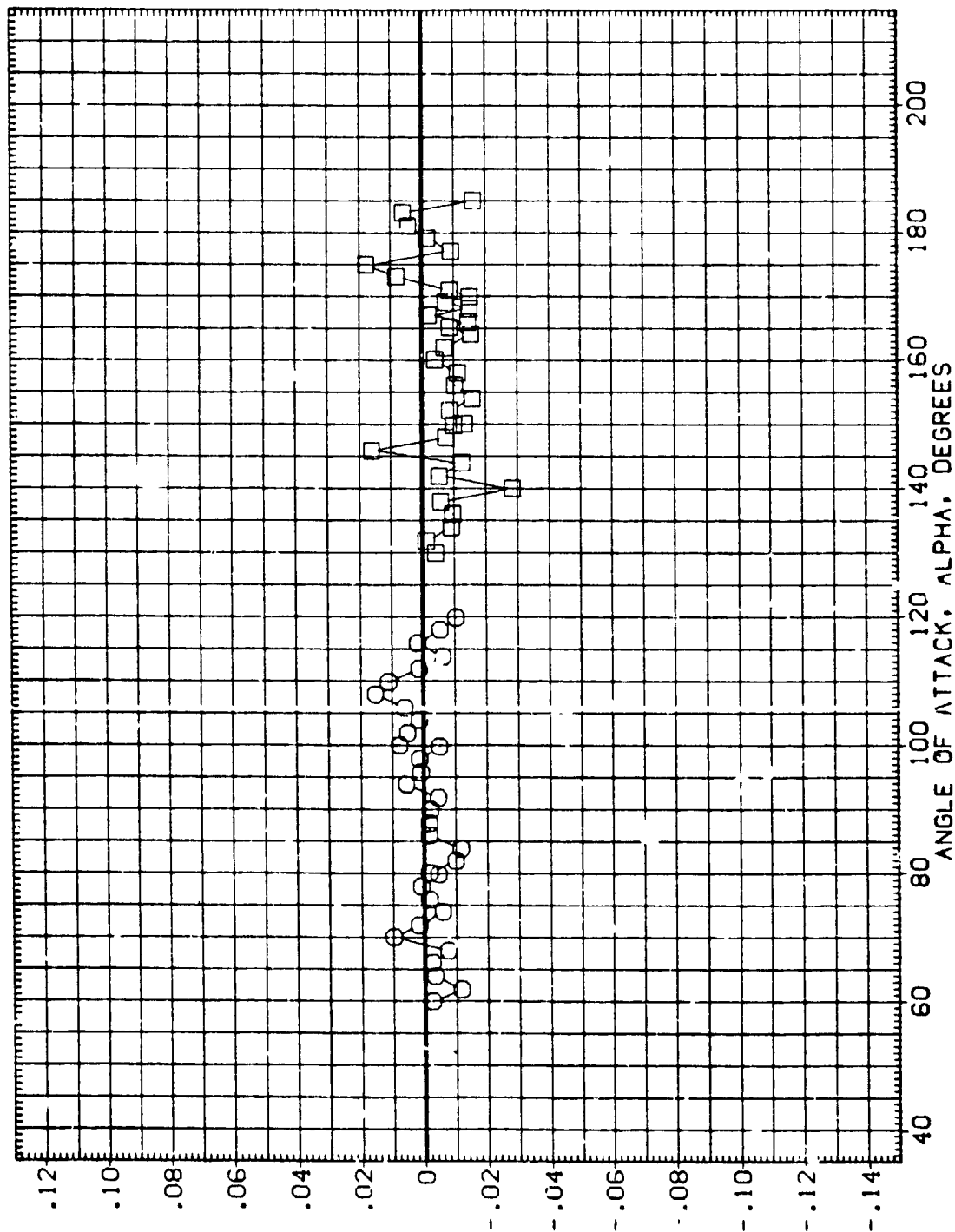
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ. FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(B)MACH = 2.74

PAGE 119

DATA SET 61MB0L
(R1J213)
(R1J214)

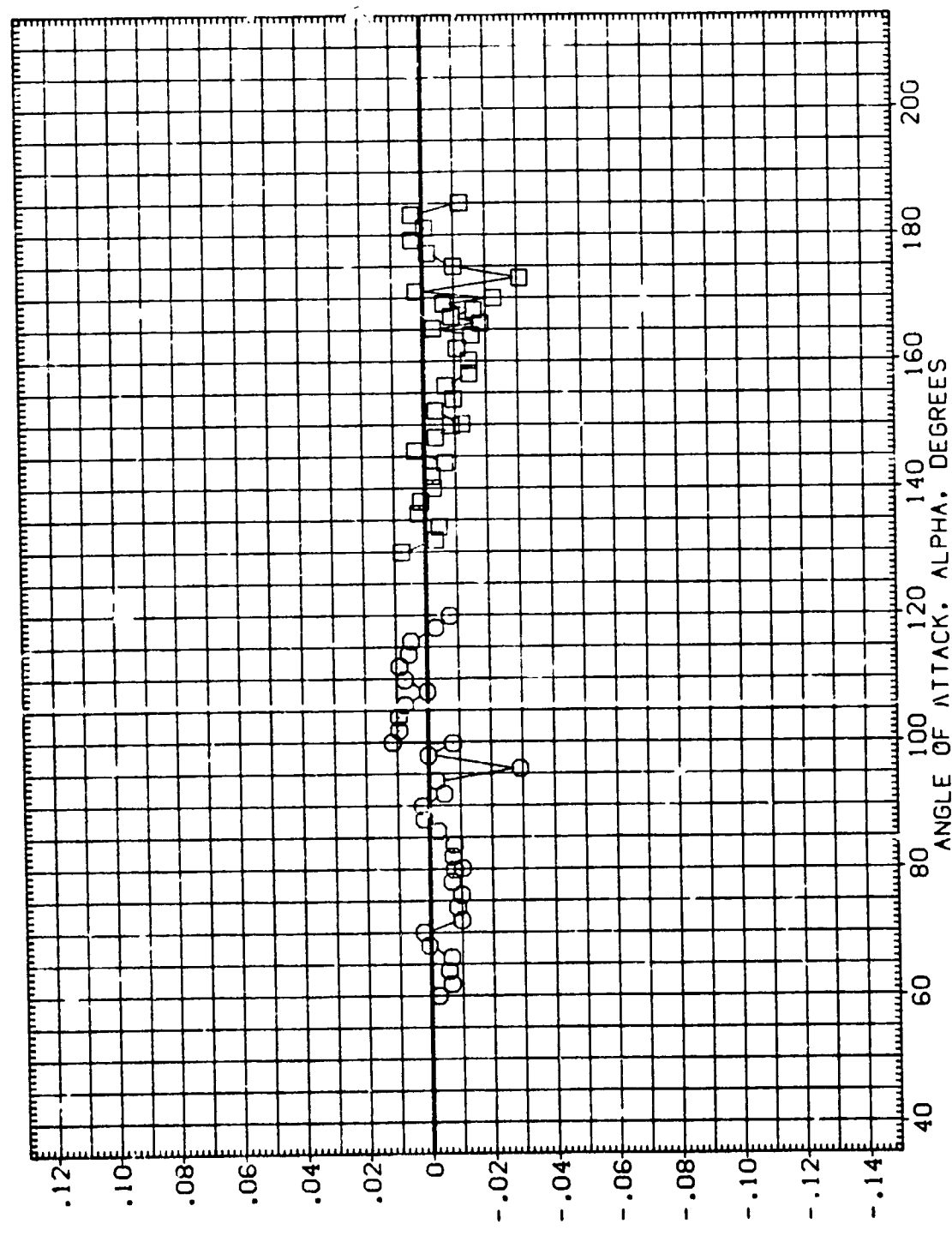
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SHEF 115.6900 50.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XHRP 114.1950 IN. XN
YHRP .0000 IN. YN
ZHRP .0000 IN. ZN
SCALE .0055

NOZZLE ROLLING MOMENT COEFFICIENT IN MISSILE AXIS, CBL



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

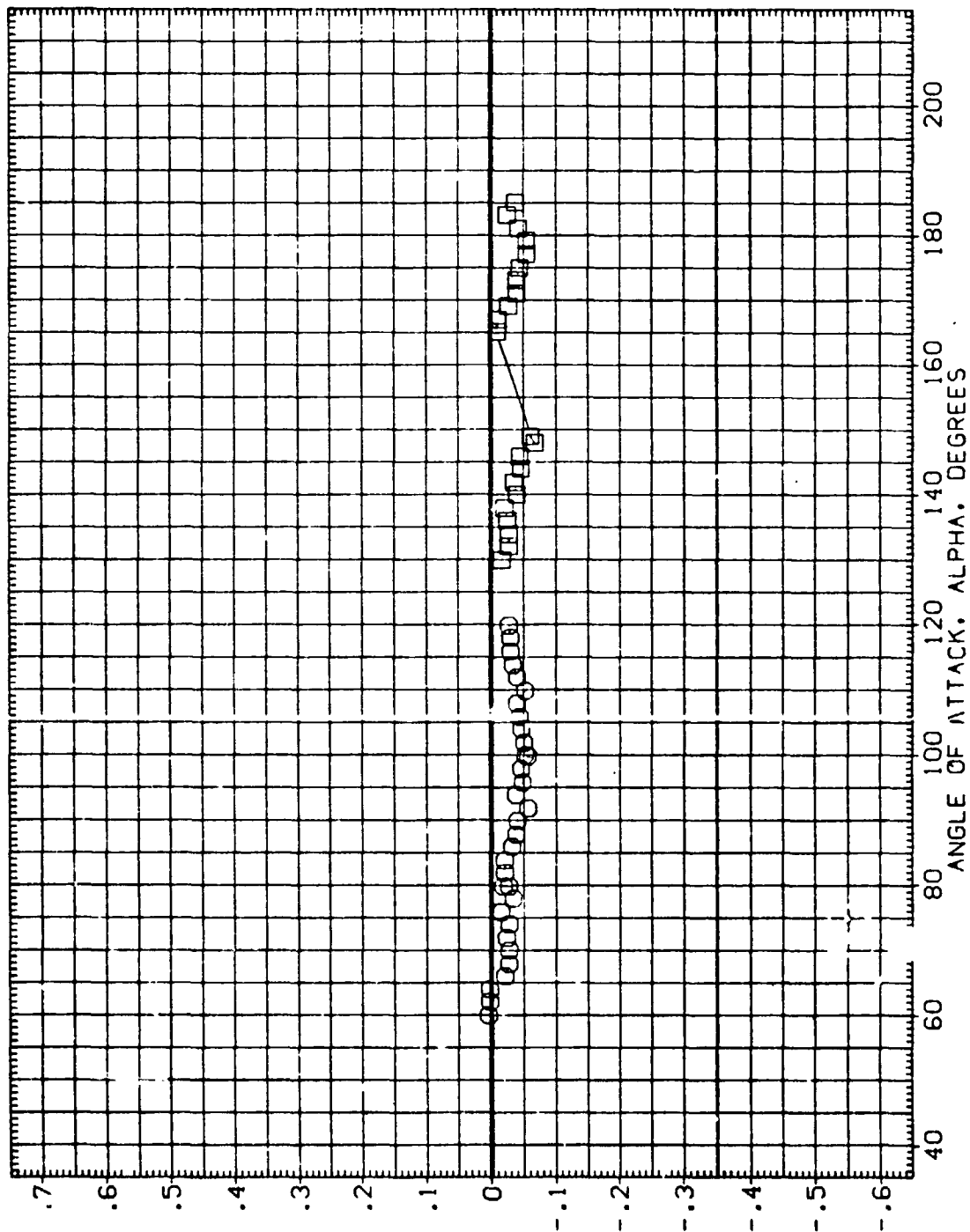
(C)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI GIMBAL

(RIJ213) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

(RIJ214) MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE 180.000 5.000

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YNM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(A)MACH = 1.38

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DATA SET SYMBOL (R1J213) (R1J214)

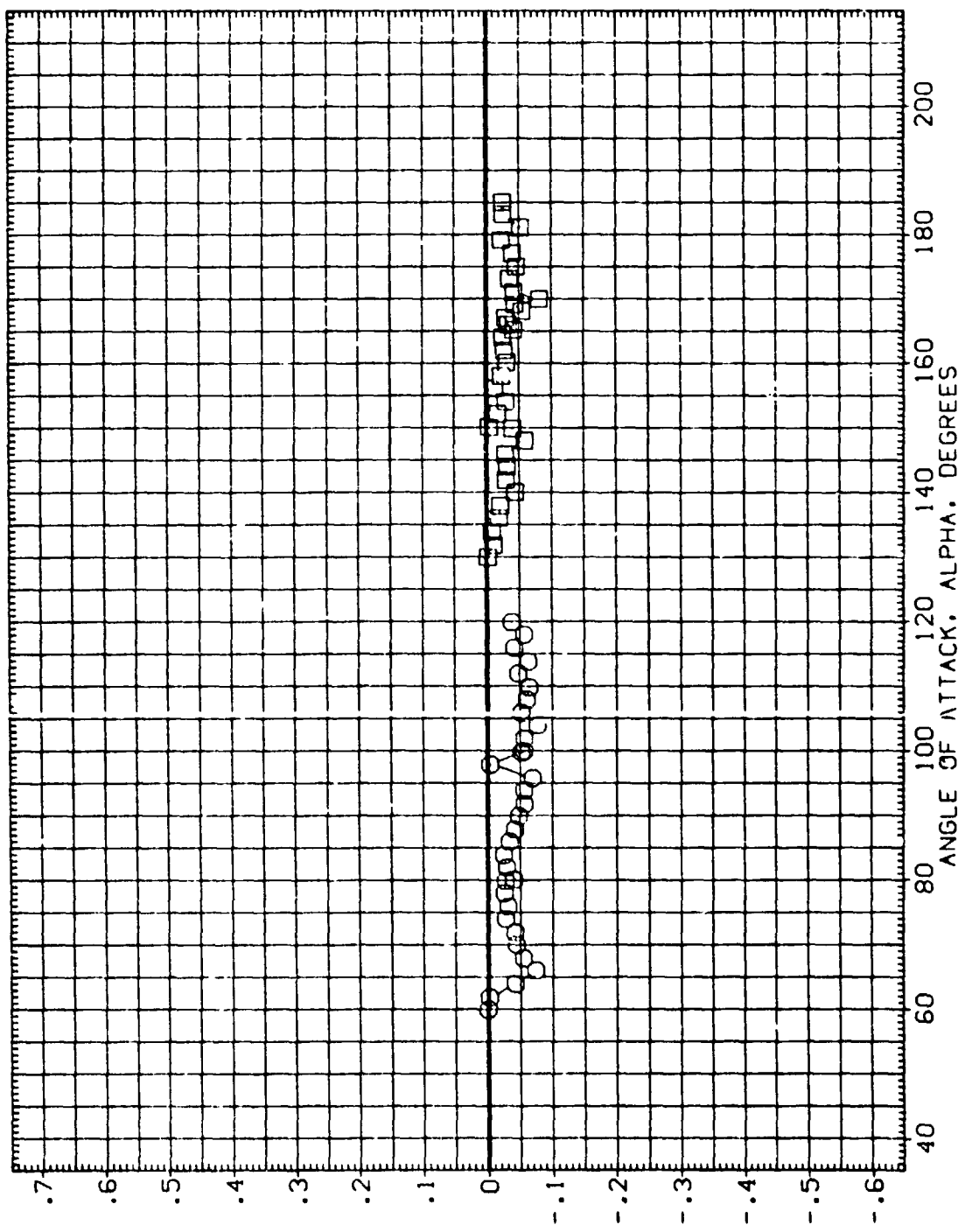
CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION SREF 115.6900 SQ.FT. LREF 145.6400 IN. BREF 145.6400 IN. XREF 114.1950 IN. YN .0000 IN. ZN .0000 IN. ZHRP .0055 SCALE

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C_{YM}



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(B)MACH = 2.74

DATA SET SYMBOL
(RIJ213)
(RIJ214)

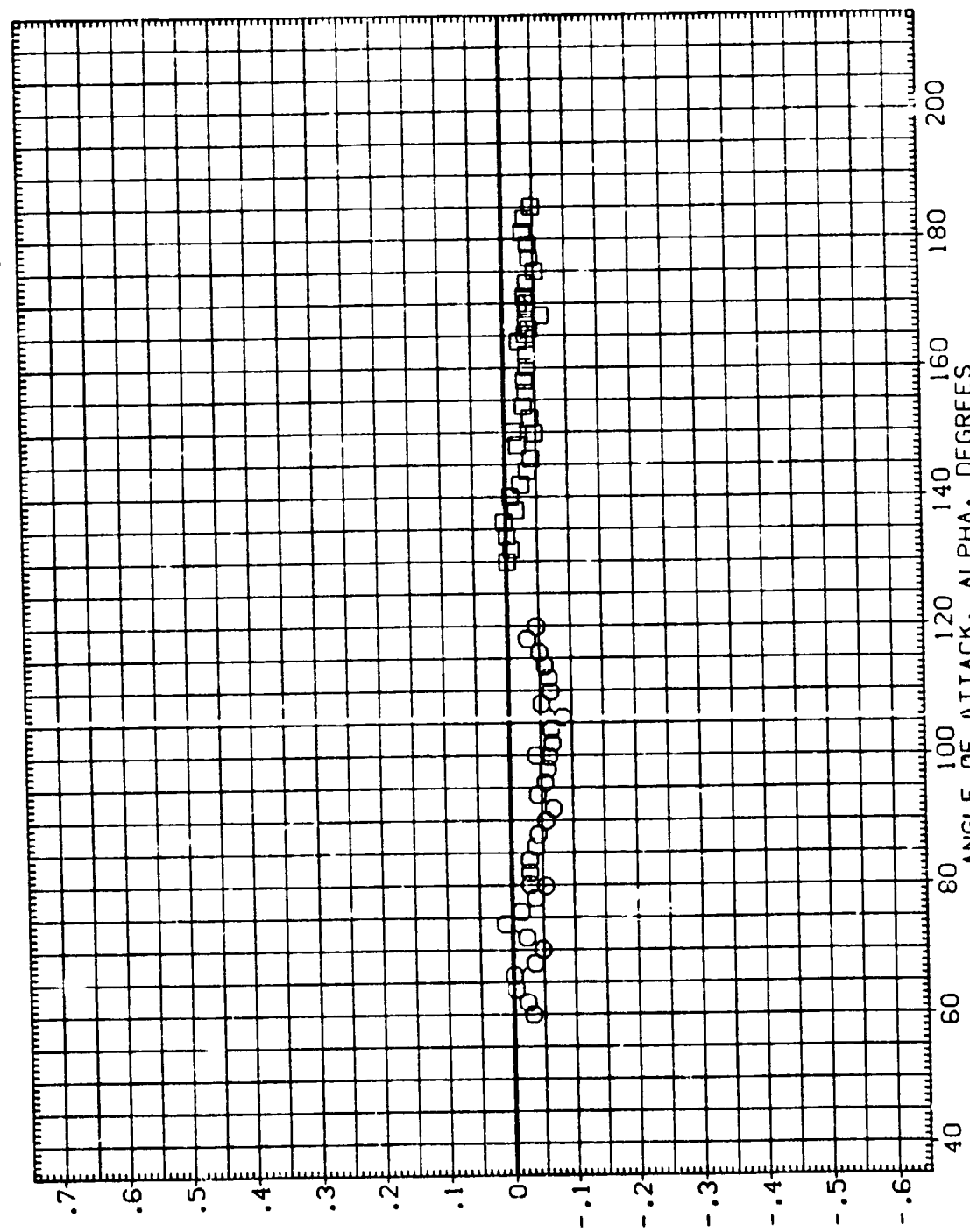
CONFIGURATION DESCRIPTION
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI
180.000
180.000

GIMBAL
5.000
5.000

REFERENCE INFORMATION
SREF 115.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(C)MACH = 3.48

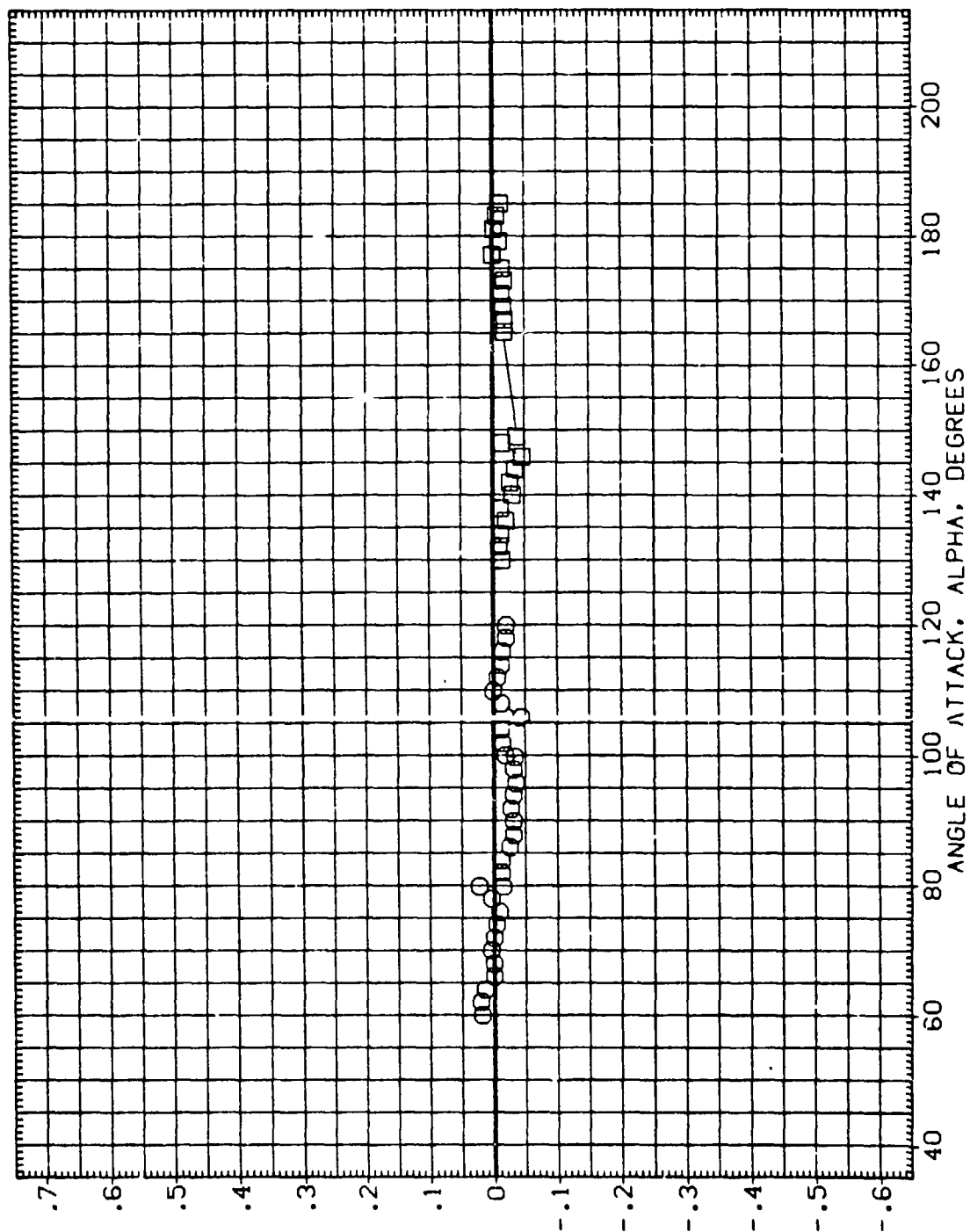
DATA SET SYMBOL (RIJ213) (RIJ214)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

REFERENCE INFORMATION
SREF 113.6900 SQ.FT.
LREF 145.6400 IN.
BREF 145.6400 IN.
XMRP 114.1950 IN. XN
YMRP .0000 IN. YN
ZMRP .0000 IN. ZN
SCALE .0055

NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(A)MACH = 1.96

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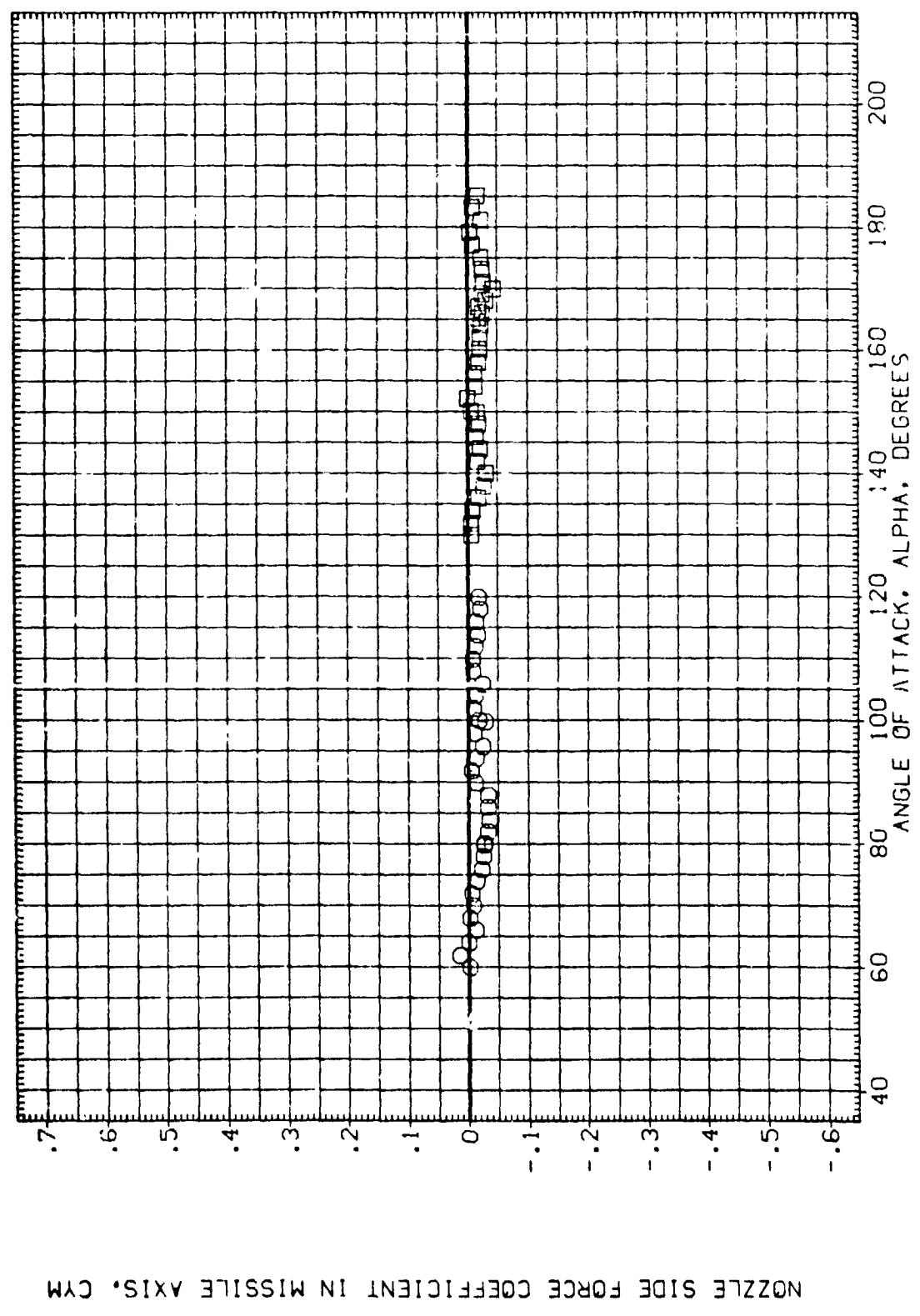
DATA SET SYMBOL (RIJ213) (RIJ214)

CONFIGURATION DESCRIPTION
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE
 MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION
 SREF 115.6900 SQ.FT.
 LREF 145.6400 IN.
 BREF 145.6400 IN.
 XMRP 114.1950 IN. XN
 YMRP .0000 IN. YN
 ZMRP .0000 IN. ZN
 SCALE .0055



STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(B)MACH = 2.74

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DATA SET SYMBOL (RIJ213) (RIJ214)

CONFIGURATION DESCRIPTION MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

PHI 180.000 180.000

GIMBAL 5.000 5.000

REFERENCE INFORMATION

SREF 115.6900 50.FT.

UREF 145.6400 IN.

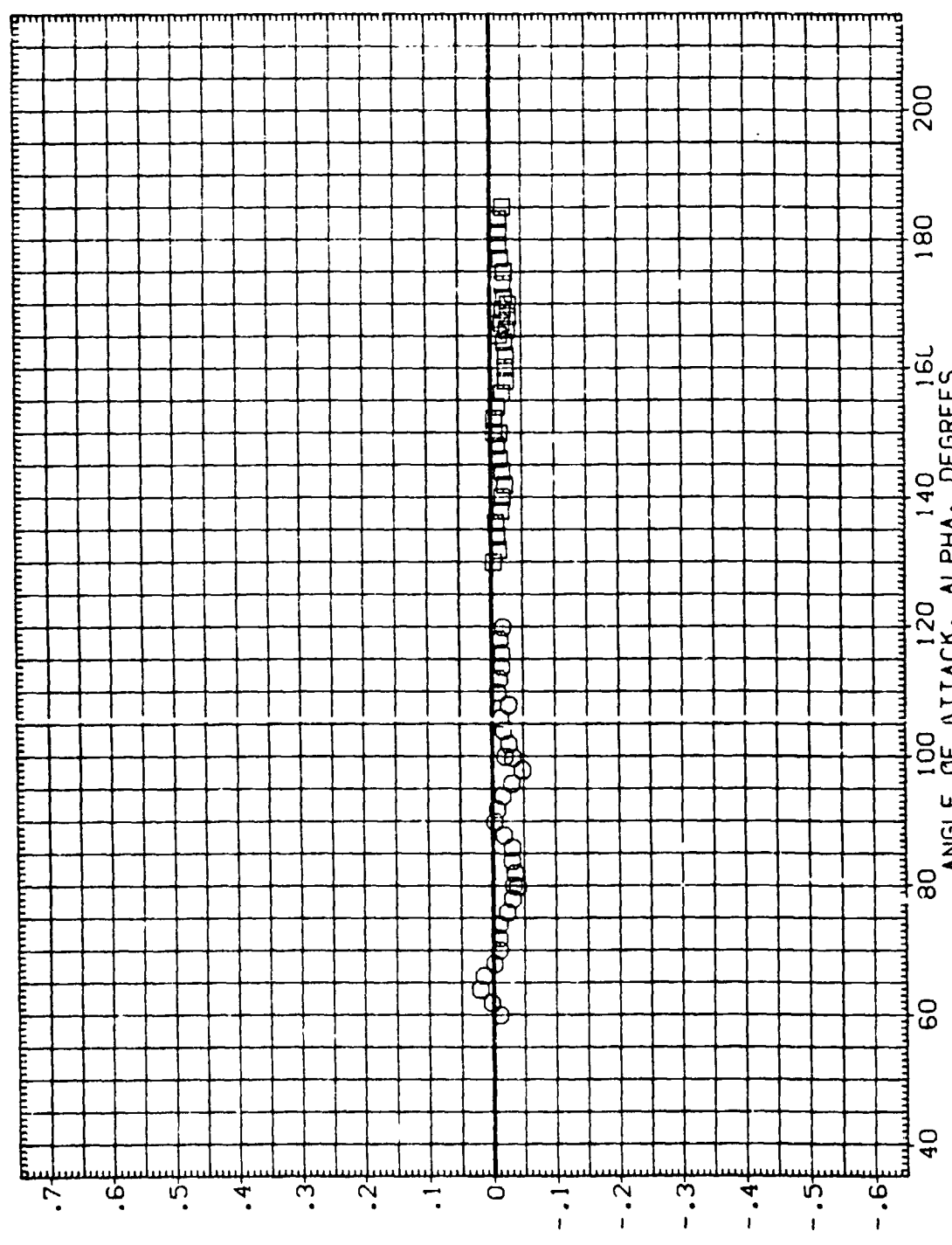
BREF 145.6400 IN.

XMRP 114.1950 IN. XN

YMRP .0000 IN. YN

ZMRP .0000 IN. ZN

SCALE .0055



NOZZLE SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

ANGLE OF ATTACK, ALPHA, DEGREES

STATIC AERODYNAMICS OF THE SRB ENGINE NOZZLE, HEAT SHIELD ON NOZZLE (GIMBAL=5.0)

(C)MACH = 3.48

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APPENDIX

TABULATED SOURCE DATA

Tabulations of plotted data are available on request from
Data Management Services.

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REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1250 IN. XM

LREF = 145.6400 IN. YPRP = .0000 IN. YM

BREF = 145.6400 IN. ZPRP = .0000 IN. ZN

SCALE = .0055

PHI = 180.000 GIMBAL = .000

PARAMETRIC DATA

RUN NO. 39/ 0 RN/L = 7.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
1.962	60.080	.20451	-.15690	.12030	-.03210	-.01630	-.00010
1.962	62.000	.21640	-.16620	.13110	-.03610	-.01810	-.00330
1.962	64.000	.23460	-.16610	.14620	-.03260	-.02180	.01810
1.962	66.000	.22910	-.24900	.17330	-.02980	-.01740	-.00060
1.962	68.000	.25100	-.24400	.21060	-.02810	-.02570	-.00610
1.962	70.000	.26110	-.26660	.23970	-.02630	-.01870	-.00470
1.962	72.000	.27640	-.27610	.26930	-.02730	-.02070	-.00310
1.962	74.000	.31200	-.23110	.30320	-.02990	-.03080	-.00190
1.962	76.000	.32820	-.23670	.33500	-.03360	-.03070	-.00080
1.962	78.000	.33590	-.27670	.37020	-.03470	-.02760	-.00110
1.962	79.900	.35030	-.27200	.39430	-.03600	-.03770	-.00160
1.962	70.000	.27090	-.24090	.24190	-.02540	-.02210	-.00690
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 50/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
2.740	60.080	.20220	-.13590	.11890	-.04440	.00120	-.01530
2.740	62.000	.23130	-.13270	.13450	-.05660	.00010	-.01910
2.740	64.000	.23180	-.17730	.15230	-.03890	-.01350	-.01670
2.740	66.020	.21390	-.27940	.17420	-.03610	-.01190	-.01390
2.740	68.000	.23460	-.25640	.19960	-.02850	-.01670	-.01180
2.740	70.000	.24310	-.29300	.22380	-.03060	-.02070	-.01310
2.740	72.000	.26070	-.30840	.24900	-.03270	-.02140	-.01830
2.740	74.020	.31670	-.17230	.27620	-.03000	-.01880	-.01570
2.740	76.000	.33350	-.20090	.30140	-.03920	-.03750	-.01040
2.740	78.000	.33170	-.23550	.32490	-.04380	-.02700	-.00730
2.740	79.900	.34850	-.24570	.34410	-.05090	-.02690	-.01290
2.740	70.000	.27050	-.22710	.22630	-.02550	-.00120	-.01440
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

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OF POOR QUALITY

REFERENCE DATA
SREF = 115.8000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .7000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025
PARAMETRIC DATA
PHI = 180.000 GIMBAL = .000

RUN NO.	49/ 0	RM/L =	7.12	GRADIENT INTERVAL =	-5.00/	5.00	
MACH	ALF-AA	CNM	CLMM	CA	CYM	CYMH	CBL
3.480	80.100	.18730	-.09020	.10370	-.04830	-.00870	-.00960
3.480	81.970	.19750	-.13460	.12480	-.03190	.01870	-.01330
3.480	84.070	.22390	-.11920	.13800	-.03380	-.00520	-.01360
3.480	86.000	.19520	-.25760	.16240	-.04270	-.05170	-.00510
3.480	88.000	.22930	-.21320	.17440	-.02880	-.01060	-.01810
3.480	70.000	.22170	-.28620	.19580	-.02840	-.02210	-.01190
3.480	72.000	.24270	-.27420	.21460	-.02820	-.02150	-.01710
3.480	74.000	.29410	-.16660	.24120	-.03250	-.03780	-.01670
3.480	76.000	.32180	-.14960	.26070	-.03440	-.02030	-.02330
3.480	78.000	.31690	-.21170	.28590	-.03890	-.02210	-.01550
3.480	79.900	.33580	-.22180	.30210	-.04710	-.02010	-.01520
3.480	70.000	.24730	-.20510	.20490	-.02610	-.01460	-.01320
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 611 (SA30F)

PAGE 3

MSFC THT 611 (SA30F) SRB WITHOUT HEAT SHIELD

(R1J002) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0003 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 32/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
1.957	79.980	.33690	-.25750	.34580	-.03480	-.02520	-.00190
1.957	81.800	.35170	-.25580	.36580	-.04000	-.02040	-.00010
1.957	83.900	.35980	-.26130	.39310	-.04560	-.02780	-.00150
1.957	85.920	.35990	-.31810	.41940	-.04960	-.01870	.00090
1.957	87.920	.36830	-.30780	.44280	-.05530	-.02200	-.00090
1.957	89.900	.35770	-.33440	.46560	-.06330	-.00780	.01870
1.957	91.900	.36340	-.33780	.47840	-.05340	-.03420	.01100
1.957	93.920	.39440	-.25290	.47180	-.04910	-.02420	.00020
1.957	95.800	.39800	-.25680	.46080	-.06190	-.03070	.00100
1.957	97.800	.37930	-.27470	.44150	-.06790	-.04370	.00040
1.957	99.800	.37090	-.26100	.41440	-.05680	-.03180	.00000
1.957	GRADIENT	.37550	-.29130	.46450	-.06990	-.02880	-.00260
		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 63/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
2.740	80.000	.34600	-.21140	.32260	-.04860	-.03990	.00010
2.740	81.900	.35320	-.24540	.34070	-.05080	-.02510	-.00960
2.740	83.900	.36590	-.26800	.36750	-.05280	-.02250	-.00930
2.740	85.920	.35500	-.33720	.39700	-.05740	-.01840	-.00050
2.740	87.900	.36980	-.33700	.43260	-.05960	-.03260	-.00210
2.740	89.900	.38440	-.35590	.46570	-.05680	-.03720	-.00290
2.740	91.900	.39830	-.37810	.50020	-.05660	-.04370	-.01060
2.740	93.900	.44460	-.27990	.49520	-.05530	-.04840	.00740
2.740	95.900	.43940	-.24260	.48000	-.06140	-.05140	-.00280
2.740	97.900	.41770	-.25260	.45780	-.07660	-.06400	-.01190
2.740	99.800	.40540	-.24080	.4370	-.08910	-.05210	-.00910
2.740	GRADIENT	.39680	-.31520	.47050	-.05680	-.01910	-.00830
		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TNT 611 (SA30F)

PAGE 5

MSFC TNT 611 (SA30F) SRS WITHOUT HEAT SHIELD (R1J003) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 25/ 0 RV/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL
1.959	99.980	.39690	-.24780	.45240	-.05590	-.02070	.02010
1.959	101.900	.37950	-.27740	.42240	-.05770	-.02810	.00070
1.959	103.900	.37830	-.26810	.39110	-.06500	-.02220	.00050
1.959	105.920	.37010	-.27230	.37410	-.06930	-.01710	-.00190
1.955	107.900	.35570	-.28150	.34750	-.02720	-.01630	-.00170
1.959	109.900	.35110	-.27840	.27670	-.00180	-.02340	-.00240
1.959	111.903	.35670	-.28160	.19460	-.05940	-.01610	-.00150
1.959	113.900	.35410	-.29470	.13380	-.07820	-.01830	-.00440
1.959	115.900	.35900	-.21860	.08530	-.06560	-.01670	-.00340
1.959	117.900	.33130	-.28720	.02510	-.09570	-.01270	-.00200
1.959	119.800	.31660	-.28120	-.04230	-.06920	-.00960	-.00410
1.959	109.900	.34950	-.29910	.28340	-.02480	-.03860	-.00610
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 78/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL
2.740	100.000	.41170	-.22030	.44730	-.09590	-.05210	-.00360
2.740	101.900	.37360	-.27350	.44570	-.10650	-.05320	-.00900
2.740	103.900	.36160	-.24610	.43360	-.12130	-.06170	-.00210
2.740	105.900	.31970	-.32270	.44050	-.12390	-.05780	.00390
2.740	107.900	.32770	-.31660	.37480	-.08490	-.04140	-.00200
2.740	109.900	.32120	-.34420	.30880	-.11170	-.04880	-.00190
2.740	111.900	.31870	-.35320	.25310	-.12150	-.04390	-.00400
2.740	113.900	.34440	-.26090	.18470	-.12640	-.04250	-.01020
2.740	115.900	.34510	-.26480	.12360	-.12620	-.04400	.00290
2.740	117.900	.33820	-.29630	.04860	-.13140	-.04070	-.01480
2.740	119.800	.33020	-.30140	-.00770	-.12400	-.02360	-.00950
2.740	109.900	.33530	-.30830	.30030	-.11430	-.01980	-.00560
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

PAGE 8

MSFC TMT 611 (SA30F) SWS WITHOUT HEAT SHIELD

(R1J003) (06 AUG 75)

REFERENCE DATA

REF = 115.0000 SQ.FT. XPRP = 114.1050 IN. XM
LREF = 145.6400 IN. YPRP = .0000 IN. YM
BREF = 145.6400 IN. ZPRP = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 77/1 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLIM	CA	CYN	CYNH	CSL
3.480	100.000	.40880	-.24820	.44500	-.07500	-.05710	.03250
3.480	101.900	.39520	-.26260	.44420	-.08460	-.05080	-.00570
3.480	103.900	.36640	-.25730	.43761	-.05790	-.04200	.00260
3.480	105.900	.32640	-.21700	.44490	-.11480	-.05330	-.00320
3.480	107.900	.30100	-.26550	.44700	-.13290	-.05770	-.00580
3.480	109.900	.28510	-.31261	.43251	-.11570	-.07370	-.01020
3.480	111.900	.30400	-.28540	.34650	-.10840	-.07000	.00230
3.480	113.900	.32910	-.21630	.28330	-.11970	-.04500	-.00560
3.480	115.900	.33160	-.24490	.21200	-.12420	-.04330	-.01220
3.480	117.900	.33420	-.28780	.14781	-.12831	-.03790	-.00930
3.480	119.800	.32590	-.28390	.05710	-.12861	-.04380	-.01590
3.480	103.900	.29360	-.33790	.42820	-.11595	-.05780	-.01200
	GRADIENT	.00000	.00000	.01100	.00300	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

PAGE 7

(RIJ004) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1930 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 0/ 0 RN/L = 7.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL
1.956	130.000	.44530	-.30860	-13120	.00310	-.00870	-.00870
1.956	131.900	.42850	-.31710	-.12650	.03110	.00400	-.00470
1.956	133.900	.39820	-.29140	-.16550	-.01820	-.01640	-.00540
1.956	135.900	.34970	-.26260	-.24520	.00440	-.00140	-.01060
1.956	137.900	.29000	-.37780	-.32550	.06780	.03330	-.01990
1.956	139.900	.25360	-.41830	-.39960	.04730	.06420	-.01040
1.956	141.900	.15660	-.20570	-.50660	.07330	.00320	-.00470
1.956	143.900	.08240	-.14180	-.50770	.10210	-.00760	-.00640
1.956	145.900	.06540	-.15990	-.64840	.13040	-.01400	-.01330
1.956	147.900	.00480	-.19240	-.73420	.08010	-.00350	-.01290
1.956	148.900	-.00070	-.11230	-.76190	-.00380	-.01600	-.00770
1.956	139.900	.23530	-.42260	-.39910	.05400	.07380	-.02160
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL
2.740	130.000	.45250	-.24640	-.06870	-.00220	.00520	-.00900
2.740	131.900	.41520	-.26530	-.02320	.00670	-.01770	-.01070
2.740	133.900	.42520	-.21770	-.06610	.00890	-.02910	-.01410
2.740	135.900	.38190	-.31790	-.12030	.03810	.03080	-.02100
2.740	137.900	.34110	-.39930	-.20260	.02570	-.01480	-.00960
2.740	139.900	.28480	-.52690	-.29640	.07470	.10060	-.01810
2.740	141.900	.23620	-.62000	-.39770	.11410	.20840	-.00780
2.740	143.900	.22510	-.68180	-.49130	.11950	.27360	.00010
2.740	145.900	.08720	-.14150	-.56190	.08230	.06430	.03290
2.740	147.900	-.08690	-.08770	-.51580	.04040	.04530	-.00430
2.740	149.900	.18400	-.10540	-.58010	-.05230	-.05320	-.00690
2.740	139.900	.26070	-.55070	-.34050	.08540	.08670	-.01970
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABLED SOURCE DATA, HSC TWT 611 (8430F)

PAGE 18

NSFC TWT 611 (SA30F) 389 WITHOUT HEAT SHIELD
(R1J004) (08 AUG 75)

REFERENCE DATA

SPRT	=	118.6000	80.FT.	XAPP	=	118.1950	IN.	ZN
UNET	=	145.6400	IN.	YAPP	=	.0000	IN.	YN
SPRT	=	145.6400	IN.	ZAPP	=	.0080	IN.	ZN
SCALE	=	.0055						

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

SUM NO. 9/0 PW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACh	μ_{MA}	CIN	CLIM	CA	CYN	CYMH	CBL
3.480	130.020	.26600	-.24430	-.21550	.02490	.00800	-.00740
3.480	131.900	.37090	-.26110	-.08690	.03800	-.00740	-.00920
3.480	133.960	.33770	-.26680	-.05970	.03730	-.01560	-.00490
3.480	135.900	.32730	-.38020	-.11880	.06050	.02160	-.01110
3.480	137.900	.32000	-.48390	-.21970	.06640	.08880	-.01630
3.480	139.900	.26740	-.69480	-.31650	.11400	.19180	-.01640
3.480	141.900	.23230	-.79230	-.40670	.13960	.23640	-.00100
3.480	143.300	.20980	-.85440	-.49450	.13970	.25060	-.00220
3.480	145.900	.19450	-.88300	-.58820	.14240	.29990	.01240
3.480	147.900	.04600	.31740	-.67990	.07740	.00360	.06290
3.480	149.800	-.15680	.01190	-.59350	-.00280	-.03340	.01310
3.480	139.900	.31600	-.45150	-.33610	.09540	.11390	-.00390
3.480	139.920	.33550	-.39810	-.31150	.08860	.11950	-.00570
3.480	139.900	.30910	-.47250	-.30400	.02630	.12060	-.00510
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

PAGE 9

(R1J005) (08 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 11/ 0 RN/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CBL
1.947	150.120	.04010	-.06020	-.69400	.02980	.01000	.00010
1.947	152.000	.01940	-.07390	-.77450	.01130	-.00260	-.00090
1.947	154.000	.03910	-.05350	-.83750	-.15320	.00790	.00610
1.947	156.000	.02100	-.06110	-.88890	-.12760	-.01590	.00810
1.947	158.000	.06960	-.05610	-.94840	-.23220	-.01920	.00610
1.947	160.000	.13150	-.04910	-.1.01920	-.26300	-.00710	.00380
1.947	162.020	.09310	-.02930	-.1.08570	-.15270	-.06610	.00570
1.947	164.020	.06320	-.08880	-.1.13780	-.08570	-.08630	-.00970
1.947	166.020	.05870	-.09270	-.1.21540	-.09310	-.06690	-.00110
1.947	168.020	.03270	-.13910	-.1.29130	-.06090	-.07100	-.00720
1.947	169.920	.02430	-.15720	-.1.33930	-.00970	-.05280	-.00920
1.947	160.000	.13590	-.06360	-.1.00840	-.28030	.02310	-.00390
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 106/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CBL
2.740	150.090	.19510	-.00390	-.62110	-.08690	-.00290	-.01860
2.740	152.000	.03660	-.04870	-.84990	-.00570	-.01630	-.01290
2.740	154.000	.03210	-.05440	-.93650	.01440	-.01370	-.01790
2.740	156.000	-.00540	-.06060	-.99170	-.14190	-.07520	-.00410
2.740	158.020	.05270	-.0940	-.1.07000	-.22100	-.00780	-.01330
2.740	160.000	.05600	-.10370	-.1.13030	-.19410	-.02840	-.00430
2.740	162.000	.06580	-.07630	-.1.19850	-.14750	-.01690	-.00950
2.740	164.000	.06540	.00150	-.1.25930	-.09720	-.04340	-.02370
2.740	166.000	.04867	-.03530	-.1.33820	-.07550	-.06600	-.02610
2.740	168.020	.01510	-.12560	-.1.39310	-.02900	-.08010	-.01110
2.740	169.900	.01450	-.13780	-.1.42210	-.00590	-.06560	-.01560
2.740	160.000	.07170	-.05270	-.1.14300	-.19650	-.00480	-.01740
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

PAGE 10

MSFC TWT 611 (SA30F) SRS WITHOUT HEAT SHIELD

(RIJ005) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. IN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIBBAL = .000

RUN NO. 1025/ 1 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLIM	CA	CYM	CYMM	CBL
3.480	150.090	-.11620	.13940	-.59050	.01500	-.00460	.00150
3.480	152.070	.08790	-.04800	-.78090	-.12050	-.01790	.00030
3.480	154.000	.04770	-.04170	-1.00210	-.02870	-.05640	-.00690
3.480	156.000	-.01730	-.08570	-1.03680	-.06950	-.05550	-.01530
3.480	158.000	.00790	-.03980	-1.10110	-.16100	-.06180	-.00670
3.480	160.000	.04050	-.07210	-1.17380	-.18290	-.06110	-.00430
3.480	162.000	.04800	-.04880	-1.23700	-.15120	-.06920	-.01250
3.480	164.000	.04590	-.00990	-1.29220	-.10830	-.07370	-.00480
3.480	166.000	.03860	-.01850	-1.36870	-.09300	-.10980	-.01630
3.480	168.000	-.00130	-.10790	-1.42420	-.03880	-.08560	-.01680
3.480	169.900	.00180	-.12370	-1.45410	-.02730	-.09440	-.01380
3.480	160.000	.04320	-.04390	-1.18350	-.18760	-.05860	-.01230
3.480	160.000	.05930	-.00950	-1.17920	-.19670	-.07820	-.01540
3.480	160.000	.02580	-.09680	-1.17680	-.19470	-.08090	-.01710
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 73

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

PAGE 11

MSFC TWT 611 (SA30F) SPB WITHOUT HEAT SHIELD

(R1J006) (06 AUG 75)

REFERENCE DATA

SREF	=	115.0000	SQ.FT.	XNXP	=	114.1950	IN.	XN
LREF	=	145.6400	IN.	YNXP	=	.0000	IN.	YN
BREF	=	145.6400	IN.	ZNXP	=	.0000	IN.	ZN
SCALE	=					.0055		

PARAMETRIC DATA

PHI - 180.000 GIMBAL - .000

RUN NO.	I/O	RM/°	GRADIENT INTERVAL	-5.00/	5.00
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ALPHA	CNN1	CLPM1	CA	CYM	CYM1	CBL
165.100	.11750	-.07430	-1.17970	-.10950	-.01810	-.00710
1.1.953	.05920	-.08190	-1.26290	-.00750	-.03860	-.00020
167.000	.04750	-.08470	-1.30340	-.00640	-.05070	-.00200
1.1.953	.03140	-1.3320	-1.34770	-.01540	-.05340	-.00540
170.980	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
172.980	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
175.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
177.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
179.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
181.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
183.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
185.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
187.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
189.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
191.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
193.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
195.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
197.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
199.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
201.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
203.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
205.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
207.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
209.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
211.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
213.000	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700
1.1.953	.03300	-.15070	-1.37320	-.00800	-.06080	-.00700</

RUN NO. 119/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

PMACH	ALPHA	CNH	CLPH	CA	CYH	CYH1	CBL
165.100	.07220	-.02390	-1.29190	-.08420	-.02560	-.00540	
167.000	.05020	-.08220	-1.36470	-.06460	-.03880	-.00510	
169.000	.04360	-.08080	-1.41020	-.01120	-.03060	-.00550	
171.000	.02740	-.00080	-1.43270	-.00170	-.04640	-.00840	
173.000	.00680	-.14940	-1.45750	.01280	-.01680	-.01020	
175.000	-.02680	-.26430	-1.47310	.01280	-.03390	-.00730	
177.000	-.04050	-.29200	-1.48640	.00030	-.04170	-.01170	
179.020	-.00590	-1.2690	-1.49110	-.00720	-.03630	-.01340	
181.000	-.03130	-.15510	-1.47800	-.00280	-.05080	-.01550	
183.020	-.04730	-.20130	-1.46340	.01190	-.03290	-.01400	
184.900	-.05340	-.20790	-1.43670	-.00940	-.05230	-.01430	
175.000	-.02000	-.22850	-1.47540	.00020	-.07310	-.01020	
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TMT 811 (SA30F)

PAGE 12

NSFC TMT 811 (SA30F) SRS WITHOUT HEAT SHIELD

(R1J006) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XPRP = 114.1130 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 123/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CBL
3.480	165.170	.05630	-.00450	-1.31430	-.05310	-.01380	-.02450
3.480	167.000	.04260	-.05930	-1.37740	-.05140	-.02360	-.01540
3.480	169.000	.03050	-.07340	-1.42740	-.01750	-.03900	-.00590
3.480	171.030	-.00370	-.19050	-1.45480	-.00150	-.04330	-.00270
3.480	173.000	-.02050	-.25110	-1.46160	.00040	-.04620	-.01370
3.480	175.000	-.03610	-.29900	-1.48770	.00980	-.03260	-.00360
3.480	177.000	-.04230	-.27350	-1.50110	-.00190	-.04640	-.00870
3.480	179.000	-.00490	-.13090	-1.50600	-.00230	-.03790	-.02130
3.480	181.000	-.02780	-.17960	-1.49320	-.00010	-.06330	-.00940
3.480	183.000	-.03740	-.21320	-1.47930	-.00260	-.06220	-.02170
3.480	184.900	-.04410	-.19670	-1.45700	-.01170	-.05170	-.01510
3.480	175.000	-.00250	-.17420	-1.49170	.00020	-.06200	-.01430
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

PAGE 13

(RIJ007) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 146.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 40/ 0 RN/L = 7.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CSL
1.965	60.100	.2280	-.16880	.10730	-.03340	-.00690	-.00750
1.965	62.000	.23843	-.19450	.12780	-.03570	-.01460	-.00330
1.965	64.000	.26050	-.21570	.14650	-.03240	-.01190	-.00580
1.965	66.020	.26750	-.26480	.17580	-.02630	-.01560	-.00530
1.965	68.020	.28310	-.29070	.21790	-.02020	-.02290	-.00170
1.965	70.000	.29910	-.29960	.25040	-.01840	-.02360	-.00370
1.965	72.000	.31710	-.30810	.28500	-.01650	-.01840	-.00410
1.965	74.020	.34670	-.26750	.31830	-.01750	-.02950	-.00240
1.965	76.000	.37310	-.26590	.35450	-.01990	-.02300	-.00340
1.965	78.000	.38360	-.29160	.39360	-.02680	-.04560	-.00280
1.965	79.900	.40530	-.28480	.42820	-.02920	-.04300	-.00380
1.965	70.000	.30870	-.28370	.25030	-.01990	-.02800	-.00370
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 47/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CSL
2.740	60.080	.22800	-.12590	.10840	-.05880	-.02460	-.01430
2.740	61.970	.24050	-.16590	.12820	-.03130	-.02010	-.01820
2.740	64.000	.25550	-.17790	.14640	-.03590	-.01690	-.01460
2.740	66.000	.25110	-.27130	.16750	-.03300	-.01150	-.01490
2.740	68.000	.27990	-.24690	.19060	-.03010	-.02160	-.00920
2.740	70.000	.28960	-.28870	.21940	-.02740	-.02640	-.01630
2.740	72.000	.30360	-.28980	.24640	-.02460	-.02120	-.01520
2.740	74.000	.35520	-.18710	.27240	-.02440	-.03550	-.01410
2.740	76.000	.37360	-.18720	.30220	-.02380	-.03150	-.00630
2.740	78.000	.37680	-.26020	.33270	-.02610	-.02990	-.02070
2.740	79.900	.40310	-.24680	.35890	-.03030	-.02440	-.01020
2.740	70.000	.31710	-.21620	.22200	-.02740	-.02280	-.00370
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

MSFC TWT 811 (S130F) SWS WITHOUT HEAT SHIELD
REFERENCE DATA
PHI = 180.000 01MBAL = 5.000
SREF = 115.6000 90.FT. 1000P = 114.1850 IN. 2N
LREF = 145.6400 IN. 1000P = .0000 IN. 1N
SREF = 145.6400 IN. 2000P = .0000 IN. 2N
SCALE = .0025

PARAMETRIC DATA

RUN NO. 48/ 0 PA/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLPM	CA	CYM	CYMH	CEL
3.480	60.080	.20140	-.10150	.08370	-.04800	-.00360	-.01170
3.480	61.970	.21320	-.14080	.11010	-.04310	.00150	-.01570
3.480	64.000	.23720	-.14150	.12780	-.03350	-.01300	-.01470
3.480	66.020	.22460	-.23470	.14360	-.03310	-.01840	-.01410
3.480	68.100	.25170	-.21950	.17060	-.02590	-.01340	-.03970
3.460	70.000	.25610	-.27320	.18390	-.02570	-.02200	-.01620
3.480	72.000	.27810	-.25930	.20440	-.02290	-.01940	-.00870
3.480	74.000	.32520	-.17240	.22700	-.01800	-.00670	-.01200
3.480	76.000	.34820	-.16210	.25160	-.02010	-.04000	-.01160
3.480	78.000	.34250	-.23800	.27940	-.02190	-.02890	-.01020
3.480	79.900	.37200	-.22930	.30760	-.02600	-.03910	-.00830
3.480	70.000	.28160	-.19300	.18480	-.02570	-.01870	-.01760
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 23 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

PAGE 15

(R1J008) (06 AUG 75)

MSFC TWT 611 (SA30F) SRB WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 31/ 0 RN/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNM	CBL
1.960	80.000	.39320	-.26090	.38150	-.02080	-.03190	.00430
1.960	81.920	.40730	-.27960	.40580	-.03030	-.02940	.00630
1.960	83.900	.42700	-.29000	.43770	-.04010	-.02780	-.00510
1.960	85.900	.42870	-.33630	.47390	-.04980	-.03700	.00190
1.960	87.920	.44700	-.34090	.50280	-.05090	-.02630	.00040
1.960	89.900	.44940	-.35810	.53550	-.05370	-.03430	-.00220
1.960	91.900	.46480	-.28050	.55850	-.05520	-.04520	-.00100
1.960	93.900	.48950	-.27720	.57360	-.03900	-.03710	.00410
1.960	95.900	.49010	-.27420	.57760	-.04760	-.04950	.00190
1.960	97.900	.46700	-.35060	.57360	-.03900	-.02640	.00050
1.960	99.800	.47200	-.28140	.55630	-.03940	-.04870	.00580
1.960	89.900	.46780	-.31000	.53510	-.06130	-.04930	.00100
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 66/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNM	CBL
2.740	80.020	.39540	-.24190	.33770	-.02790	-.02930	-.00360
2.740	81.900	.40700	-.27370	.36320	-.03740	-.03420	-.00600
2.740	83.900	.42690	-.29530	.39310	-.04410	-.03400	-.00800
2.740	85.900	.42940	-.41670	.42970	-.05310	-.03470	.00160
2.740	87.900	.45130	-.40470	.46940	-.06030	-.03560	-.00780
2.740	89.900	.47870	-.40160	.51510	-.04010	-.03660	-.00290
2.740	91.900	.50830	-.39800	.54780	-.02460	-.00410	.00870
2.740	93.900	.55910	-.28350	.55530	-.02960	-.03850	-.00340
2.740	95.900	.55920	-.27010	.55030	-.02960	-.038	-.00050
2.740	97.900	.52220	-.30600	.54630	-.03260	-.04150	-.00180
2.740	99.800	.50250	-.29310	.53780	-.03800	-.03930	-.00780
2.740	89.900	.50050	-.33040	.51290	-.04520	-.04580	-.01270
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

PAGE 16

MSFC TWT 811 (SA30F) SWS WITHOUT HEAT SHIELD

(RIJ008) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 65/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CHM	CLPM	CA	CYM	CYNM	CEL
3.480	80.000	.35780	-.22940	.28570	-.02130	-.02420	-.00310
3.480	81.900	.38290	-.26620	.31050	-.03000	-.03140	-.00750
3.480	83.800	.41020	-.29210	.34430	-.03850	-.02910	-.00920
3.480	85.900	.39430	-.46230	.39320	-.04890	-.03450	-.00500
3.480	87.900	.47050	-.38040	.44790	-.05730	-.05220	-.00570
3.480	89.900	.50290	-.42920	.49160	-.04050	-.03870	-.00650
3.480	91.900	.53910	-.38460	.52100	-.03310	-.04240	.00180
3.480	93.900	.55930	-.31890	.52420	-.03550	-.03780	-.00290
3.480	95.900	.55930	-.29370	.52950	-.04030	-.04980	-.00340
3.480	97.900	.53710	-.29340	.52900	-.04750	-.05780	-.00210
3.480	99.800	.52620	-.27490	.52790	-.03867	-.05050	.00030
3.480	89.900	.51940	-.36340	.49280	-.04290	-.04320	-.01090
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 611 (SA30F)

PAGE 17

(RIJ009) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
LMREF = 145.6400 IN. YPRP = .0000 IN. YN
BRF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PAPAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 26/ 0 RN/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNM	CBL
1.959	99.980	.59870	-.38810	.54460	-.04180	-.03950	.00440
1.959	101.900	.59830	-.42630	.54320	-.04300	-.03140	.00290
1.959	103.900	.59430	-.47730	.51230	-.05170	-.03370	.00460
1.959	105.920	.57440	-.41350	.49930	-.06070	-.02630	.00160
1.959	107.900	.54970	-.40560	.49810	-.05410	-.02400	.00050
1.959	109.900	.53470	-.41140	.46400	.01080	-.01220	-.00180
1.959	111.900	.53330	-.39690	.39670	-.04860	-.02290	-.00070
1.959	113.900	.51350	-.41250	.33260	-.05480	-.03320	-.00220
1.959	115.900	.49650	-.40000	.27720	-.05370	-.02880	-.00610
1.959	117.900	.48500	-.40070	.22630	-.07790	-.01180	-.00420
1.959	119.800	.46070	-.40050	.17310	-.06880	-.01820	-.00260
1.959	109.900	.52450	-.44590	.47470	-.00780	-.00270	-.00510
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 75/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNM	CBL
2.740	100.000	.52230	-.24650	.53720	-.04030	-.05910	-.00030
2.740	101.900	.48930	-.27570	.54370	-.04570	-.05720	-.00220
2.740	103.900	.48020	-.24390	.53870	-.04360	-.05360	-.00380
2.740	105.900	.43740	-.31580	.54050	-.04900	-.05180	-.00830
2.740	107.900	.41480	-.30620	.54460	-.06640	-.04310	-.00390
2.740	109.900	.39110	-.31320	.54090	-.06940	-.04310	-.01140
2.740	111.900	.38420	-.26210	.49850	-.02580	-.05410	-.00680
2.740	113.900	.40330	-.20580	.43350	-.06480	-.06740	-.00260
2.740	115.900	.38330	-.22400	.37940	-.05290	-.07050	-.00510
2.740	117.900	.35870	-.27040	.32500	-.05320	-.05160	-.01350
2.740	119.800	.35510	-.24010	.27690	-.04660	-.05230	-.01790
2.740	109.900	.40020	-.26530	.54050	-.07220	-.04830	-.01920
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TNT 811 (SA30F)

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MSFC TNT 811 (SA30F) SRS WITHOUT HEAT SHIELD

(RIJ009) (06 AUG 75)

REFERENCE DATA

REF = 115.0000 90.000 IN. 2N
LREF = 145.0000 IN. 1N
REF = 145.0000 IN. 2N
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = 0.000

RUN NO. 78/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	CMH	CLMH	CA	CYM	CYMH	CSL
3.480	99.900	.52170	-.26220	.51870	-.05030	-.09010	-.00460
3.480	101.900	.49420	-.30990	.52140	-.03680	-.07440	.00160
3.480	103.900	.47550	-.30380	.52880	-.04180	-.06670	-.00400
3.480	105.900	.43590	-.35170	.54340	-.04450	-.05220	-.00620
3.480	107.900	.41880	-.32960	.55380	-.04720	-.05480	-.00180
3.480	109.900	.38670	-.34490	.55780	-.06120	-.06680	.00180
3.480	111.900	.37250	-.25940	.55550	-.02600	-.04680	-.01400
3.480	113.900	.37470	-.18510	.55530	-.07620	-.06010	-.01000
3.480	115.900	.35300	-.19020	.51040	-.01980	-.04080	-.00210
3.480	117.900	.33710	-.22800	.42760	-.03580	-.05740	-.00950
3.480	119.800	.34060	-.23290	.36300	-.05610	-.05530	-.00960
3.480	109.900	.40560	-.24420	.56200	-.05950	-.08740	-.00470
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

PAGE 19

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

(R1J010) (06 AUG 75)

MSFC TWT 811 (SA30F) SWS WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1850 IN. YN
 LREF = 145.8400 IN. YREF = .0000 IN. YN
 SREF = 145.8400 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 17/ 0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CAN	CLPM	CA	CYM	CYNM	CEL
1.956	130.020	.45600	-.33470	.01950	-.00440	.00230	.00100
1.956	131.020	.45870	-.34710	.01070	.00180	-.01020	.00480
1.956	132.020	.46230	-.35830	.01210	.00140	.00870	-.00230
1.956	133.020	.46600	-.36990	.05520	.03470	.00440	.00030
1.956	134.020	.46940	-.38770	-.00680	.05190	-.00150	.00030
1.956	135.020	.47290	-.40790	.07290	.04470	-.00170	-.00260
1.956	136.020	.47650	-.42500	-.15360	.03310	.00160	-.00420
1.956	137.020	.48000	-.43970	-.22440	.03640	.00440	-.01140
1.956	138.020	.48300	-.45200	-.36880	.06180	-.01020	-.00320
1.956	139.020	.48500	-.46100	-.37940	.01930	.00140	-.00010
1.956	140.020	.48600	-.46500	-.36650	-.00330	.00910	-.00650
1.956	141.020	.48600	-.46500	-.07360	.02930	-.01360	-.00900
1.956	142.020	.48500	.00000	.00000	.00000	.00000	.00000
GRADIENT							

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 OF POOR QUALITY

RUN NO. 94/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CAN	CLPM	CA	CYM	CYNM	CEL
2.740	129.980	.29150	-.19240	.00200	.00390	-.02290	-.00060
2.740	131.900	.25210	-.22670	-.05570	.01590	-.00100	.00140
2.740	133.900	.41190	-.25650	.05690	.02370	.00990	-.01340
2.740	135.900	.34180	-.33150	.11690	.02550	-.00460	.00000
2.740	137.900	.36060	-.26950	.07370	.04490	-.01570	.02100
2.740	139.900	.31510	-.32560	.00780	.04440	-.01700	.00080
2.740	141.900	.27430	-.36150	-.07050	.05110	-.00520	-.00770
2.740	143.900	.26290	-.35270	-.18130	.08200	.04500	-.04590
2.740	145.900	.20220	-.48710	-.29170	.12440	.15280	-.01120
2.740	147.900	.13710	-.68500	-.40410	.17410	.26960	-.00450
2.740	149.800	-.00920	-.06600	-.44540	.11390	.12170	.04190
2.740	139.900	.34300	-.21420	-.02110	.05670	.01950	.00430
GRADIENT							

MSFC TWT 811 (SA30F) SWS WITHOUT HEAT SHIELD

(R1J010) (06 AUG 75)

REFERENCE DATA

SRET	=	115.0000	50. FT.	30993	=	114.1950	IN.	YN
LNRT	=	143.6400	IN.	71999	=	.0000	IN.	YN
BRET	=	145.0400	IN.	21999	=	.0000	IN.	ZN
SCALE	=			.00935				

PARAMETRIC DATA

PHI - 180.000 GINBAL - 5.000

RUN NO. 93/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLIM	CA	CYM	CYMH	CBL
3.460	130.000	.31040	-.18060	.05000	.01590	-.00800	-.00400
3.460	131.900	.26130	-.21670	.01840	.380	-.00050	-.00180
3.460	133.900	.22650	-.20190	.22650	.03360	-.00270	-.00090
3.460	135.900	.29970	-.29270	.05300	.03660	-.01600	-.00860
3.460	137.900	.27750	-.26000	.12070	.04290	-.00240	-.00140
3.460	139.900	.27450	-.26210	.09180	.03590	.07460	.00270
3.460	141.900	.27660	-.26830	.01990	.05210	.00100	-.00670
3.480	143.920	.26070	-.36580	.14210	.09800	.07490	-.00830
3.480	145.900	.22040	-.50640	.27130	.16560	.20790	-.01680
3.480	147.900	.15350	-.75070	.38330	.20850	.33260	-.03460
3.480	149.800	.09620	-.97030	.48980	.24360	.42110	.01840
3.480	139.900	.35980	.00020	.06230	.08670	.04690	.01950
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

C 3

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SRS WITHOUT HEAT SHIELD

(RIJ011) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0053

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 12/ 0 RN/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
1.946	150.120	.02890	-.08000	-.35760	.03730	.00910	-.00640
1.946	152.020	.02060	-.06240	-.45500	.07020	-.00760	-.00440
1.946	154.020	-.02980	-.06710	-.56280	-.02740	-.02310	.00400
1.946	156.000	-.07160	-.08190	-.63460	.03960	-.01140	-.00450
1.946	158.000	-.07790	-.07280	-.70200	.12050	-.05370	-.00560
1.946	160.000	.04820	-.02800	-.79010	-.31220	.01690	-.00910
1.946	162.020	.00780	-.06560	-.87340	-.16600	.03410	-.00800
1.946	164.020	-.06390	-.06710	-.91990	-.01340	-.07400	-.00750
1.946	166.020	-.05470	-.06580	-.97580	-.07580	-.01460	-.00230
1.946	168.020	-.05730	-.08040	-1.05260	-.10210	-.07700	-.00570
1.946	169.920	-.09260	-.10600	-1.14070	.01480	-.03110	-.01320
1.946	160.000	.10330	-.03920	-.79400	-.34840	.05540	-.01310
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 103/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
2.740	150.090	-.04500	-.00990	-.39520	.04070	-.01610	.01150
2.740	152.000	-.13750	.03030	-.39880	.10650	-.03390	-.00170
2.740	154.000	-.01570	-.00110	-.51060	.07750	.00090	-.00760
2.740	156.000	-.04560	-.08720	-.62630	.06730	-.07680	-.00970
2.740	158.000	-.00350	-.05080	-.76950	.25860	-.03090	-.00280
2.740	160.000	-.01730	-.14530	-.88470	.27580	-.04820	-.00430
2.740	162.000	-.03890	-.18480	-.98410	.24890	-.03290	-.00340
2.740	164.000	-.00740	-.03860	-1.06820	.20710	-.03810	-.00590
2.740	166.000	-.03280	-.03200	-1.12020	.15990	-.02800	-.01480
2.740	168.000	-.05440	-.05080	-1.17990	.10590	-.11130	-.00460
2.740	169.900	-.13050	-.08730	-1.23490	-.03210	-.08680	-.01320
2.740	160.000	-.00090	-.07670	-.89140	.15570	-.23300	.01130
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

PAGE 22

MSFC TMT 611 (SA30F) SWS WITHOUT HEAT SHIELD

(RIJ011) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0035

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 104/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CB
3.480	150.090	.13540	-.83110	-.46890	.20700	.34790	.02290
3.480	152.000	.01270	.23270	-.51530	.14600	.09030	.07740
3.480	154.000	-.01110	.07160	-.52720	.39850	-.07750	.02360
3.480	156.000	-.12360	-.08760	-.57920	.24300	-.03670	.01850
3.480	158.020	-.15210	-.21440	-.71700	-.01040	-.01980	.02010
3.480	160.000	-.12720	-.21340	-.85910	.04420	-.02020	.01260
3.480	162.000	-.12570	-.18230	-.99010	.09570	-.06020	.00220
3.480	164.000	-.07710	-.06530	-1.07380	-.08980	-.05250	.00160
3.480	166.000	-.01690	.02980	-1.15670	-.19190	-.14770	-.00280
3.480	168.000	-.09200	-.10050	-1.21390	-.14940	-.17530	.00470
3.480	169.900	-.09910	-.08170	-1.28480	-.14790	-.26080	-.00270
3.480	160.000	-.10980	-.14740	-.87430	.04330	-.09940	-.00460
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

DATE 20 AUG 78

(R1J012) (06 AUG 78)

MSFC TMT 611 (SA30F) SRS WITHOUT HEAT SHIELD

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

RUN NO. 2/ 0 RV/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYV	CYNH	CBL
1.957	165.100	.10230	.00590	-.93260	-.22460	.02460	-.00250
1.957	167.000	-.03400	-.02340	-1.00270	-.07370	-.02450	.00064
1.957	169.000	-.05080	-.01360	-1.06390	-.05280	-.04190	.00090
1.957	171.000	-.07200	-.07330	-1.16420	.04420	-.02820	-.00310
1.957	172.980	-.06820	-.09220	-1.25060	.02010	-.04590	.00330
1.957	175.000	-.07360	-.12630	-1.29210	-.01000	-.06790	.00730
1.957	177.000	-.09170	-.15120	-1.34810	-.00130	-.07230	.00400
1.957	179.020	-.10370	-.17520	-1.37290	.00610	-.07340	.00710
1.957	181.020	-.12530	-.17120	-1.40490	.01620	-.05670	.00350
1.957	183.020	-.13290	-.19690	-1.42300	-.00180	-.05950	.00560
1.957	184.920	-.16230	-.19270	-1.43000	-.00240	-.05580	.00540
1.957	175.000	-.08660	-.17030	-1.30750	.00820	-.04080	.03440
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 122/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYV	CYNH	CBL
2.740	165.120	-.01190	-.00110	-1.08010	.19390	-.01350	-.00440
2.740	167.000	-.03130	-.02440	-1.13670	.15300	-.01260	-.00460
2.740	169.000	-.05790	-.00020	-1.19460	.10100	-.00920	-.00840
2.740	171.000	-.13000	-.13860	-1.25880	.00490	-.03420	-.01700
2.740	173.000	-.12100	-.15020	-1.33270	-.00210	-.06140	-.01230
2.740	175.000	-.13070	-.22730	-1.39950	-.00170	-.05570	-.00790
2.740	177.000	-.13440	-.22380	-1.44080	-.00160	-.06570	.00560
2.740	179.000	-.12590	-.17920	-1.46530	-.00450	-.07210	-.00890
2.740	181.000	-.13070	-.19860	-1.49200	.00770	-.03110	-.01680
2.740	183.000	-.15470	-.24540	-1.49630	-.00230	-.05040	-.01570
2.740	184.900	-.16500	-.23660	-1.50260	-.00740	-.05070	-.01500
2.740	175.000	-.12260	-.18780	-1.40350	-.00470	-.05940	-.02670
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 70

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 011 (SA30F) SWS WITHOUT HEAT SHIELD

(R1J012) (06 AUG 75)

REFERENCE DATA

SRF	=	119.0000	90.FT.	2999	=	114.1950	IN.	2X
LRF	=	145.0400	IN.	1999	=	.0000	IN.	1Y
BRF	=	145.0400	IN.	2999	=	.0000	IN.	2Z
SCALE	=				=	.0035		

PMI - 180.000 OIBAL - 5.000

PARAMETRIC DATA

RUN NO.	IC/ 0	RM/L =	7.12	GRADIENT INTERVAL =	-5.00/	5.00
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MACH	ALPHA	CNH	CLM1	CA	CYH	CYH1	CBL
3.460	166.100	-.03190	-.01060	-1.18060	.10000	-.01030	-.00460
3.460	167.000	-.06840	-.06810	-1.17180	.10000	-.02840	-.00760
3.460	169.000	-.06840	-.03110	-1.24230	.10370	-.05920	-.00830
3.460	171.000	-.14590	-.12630	-1.30290	.00250	-.06310	-.00150
3.460	173.000	-.13750	-.15940	-1.36630	.00240	-.07030	-.00930
3.460	175.000	-.14620	-.16270	-1.42300	.00670	-.03950	-.01010
3.460	177.000	-.15180	-.26790	-1.46450	.00430	-.06480	-.01110
3.460	179.000	-.12610	-.18420	-1.46890	.00200	-.05760	-.00970
3.460	181.000	-.14150	-.19320	-1.50180	.00710	-.04400	.00230
3.460	183.000	-.16010	-.26950	-1.50490	.00670	-.03370	.01890
3.460	184.900	-.17300	-.24130	-1.51330	.00280	-.06410	.01670
3.460	175.000	-.13900	-.19980	-1.43060	.00230	-.03720	.01890
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

PAGE 25

MSFC TWT 811 (SA30F) S98 - HEAT SHIELD ON SKIRT

(R1J013) (06 AUG 75)

REFERENCE DATA

SREF = 115.6800 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 38/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLM1	CA	CYN	CBL
1.953	60.080	.17550	-.13510	.14750	-.02140	-.03290
1.953	62.000	.18740	-.15630	.17310	-.00830	-.01050
1.953	64.000	.21210	-.16020	.19940	-.00640	-.01230
1.953	66.020	.21000	-.22250	.25410	-.00330	-.00720
1.953	68.000	.22500	-.22840	.29810	-.00180	-.02570
1.953	70.000	.23710	-.25400	.33700	-.00550	-.03240
1.953	72.000	.25970	-.25140	.37520	-.00500	-.02090
1.953	74.000	.30570	-.17420	.42120	-.00910	-.04700
1.953	76.000	.31660	-.19590	.46870	-.00720	-.03160
1.953	78.000	.32020	-.23710	.52140	-.00550	-.03500
1.953	79.900	.34080	-.22230	.55960	-.00670	-.03080
1.953	70.000	.25700	-.21550	.33580	-.00410	-.02990
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 51/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLM1	CA	CYN	CBL
2.740	60.100	.16520	-.10360	.14120	-.03060	-.00020
2.740	61.970	.18460	-.14250	.17090	-.02260	.00890
2.740	64.000	.21110	-.13580	.20340	-.01510	-.01850
2.740	66.000	.19310	-.23710	.23110	-.01240	-.02040
2.740	68.000	.21180	-.22930	.26680	-.01460	-.03420
2.740	70.000	.22110	-.27120	.30320	-.01160	-.02540
2.740	72.000	.23470	-.27910	.33810	-.01360	-.02590
2.740	74.000	.28520	-.16480	.37420	-.01350	-.02550
2.740	76.000	.30770	-.14360	.40930	-.01300	-.01810
2.740	78.000	.30250	-.20910	.44960	-.02020	-.03870
2.740	79.900	.33320	-.16840	.47970	-.02480	-.03420
2.740	70.000	.25830	-.16160	.30350	-.00920	-.02340
GRADIENT		.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

PAGE 26

MSFC TMT 611 (SA30F) SRS - HEAT SHIELD ON SKIRT

(RIJ013) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1950 IN. X'
LREF = 145.6400 IN. YREF = .0000 IN. Y'
BREF = 145.6400 IN. ZREF = .0000 IN. Z'
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 52/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMN	CA	CYM	CYNH	CBL
3.480	60.100	.15250	-.08760	.11430	-.02870	.00830	-.02270
3.480	62.000	.15820	-.13730	.14560	-.02600	-.00440	-.01910
3.480	64.000	.16830	-.09850	.16900	-.02100	-.01500	-.01620
3.480	66.000	.18940	-.20610	.19620	-.01380	-.03450	-.01360
3.480	69.000	.20080	-.19570	.22660	-.01130	-.02130	-.01670
3.480	70.000	.20570	-.21610	.25520	-.01110	-.03000	-.01480
3.480	72.000	.22220	-.21160	.27710	-.01080	-.02350	-.01730
3.480	74.000	.25740	-.14350	.30630	-.01070	-.03770	-.01610
3.480	76.000	.27230	-.14720	.33930	-.01480	-.02190	-.01660
3.480	78.000	.27600	-.17520	.37340	-.01910	-.03020	-.01510
3.480	79.900	.29650	-.18830	.40740	-.01870	-.02080	-.02010
3.460	70.000	.22220	-.17620	.25390	-.01110	-.02380	-.01870
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

(R1J014) (06 AUG 75)

MSFC TWT 811 (SA30F) SRB - HEAT SHIELD ON SKIRT

PARAMETRIC DATA

REFERENCE DATA

PHI = 180.000 GIMBAL = .000

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XM
 LREF = 145.6400 IN. YREF = .0000 IN. YM
 BREF = 145.6400 IN. ZREF = .0000 IN. ZM
 SCALE = .0055

RUN NO. 33/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CEB
1.955	79.980	.33040	-.21150	.50830	-.01260	-.04050	-.00410
1.955	81.900	.32750	-.25630	.55060	-.01080	-.02890	.00270
1.955	83.900	.34270	-.23630	.59180	-.01500	-.03020	.00090
1.955	85.920	.33710	-.30250	.63810	-.01900	-.03360	.00080
1.955	87.920	.35650	-.30040	.68860	-.01580	-.03020	.00040
1.955	89.900	.37380	-.30580	.68760	-.00840	-.02380	.00230
1.955	91.900	.39120	-.31310	.68580	-.01240	-.03840	-.00340
1.955	93.900	.42890	-.26180	.65680	-.00900	-.03930	.00520
1.955	95.900	.44540	-.26870	.61310	-.00590	-.01900	-.00280
1.955	97.900	.44780	-.30490	.54770	-.00650	-.01960	-.00250
1.955	99.800	.45710	-.30700	.48390	-.01390	-.02950	-.00040
1.955	89.900	.39010	-.26470	.69140	-.01580	-.03380	-.00260
1.955	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 62/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CEB
2.740	80.000	.32070	-.17920	.43430	-.01490	-.01820	.00150
2.740	81.900	.33370	-.20200	.46410	-.01710	-.01940	-.00350
2.740	83.900	.34740	-.23170	.49500	-.01670	-.01240	-.00530
2.740	85.900	.34260	-.29700	.53380	-.01890	-.02050	-.00610
2.740	87.900	.35750	-.33590	.56870	-.01570	-.02400	.00710
2.740	89.900	.36590	-.36700	.60480	-.01310	-.01040	-.00500
2.740	91.900	.39840	-.32430	.62010	-.01270	-.01580	-.00390
2.740	93.900	.44040	-.31930	.63070	-.01190	-.02600	.00270
2.740	95.900	.46650	-.29770	.60740	-.01170	-.01200	-.00760
2.740	97.900	.45190	-.31220	.55860	-.01420	-.00610	-.00250
2.740	99.800	.47480	-.24540	.49870	-.01420	-.00130	-.00430
2.740	89.900	.39070	-.29740	.60620	-.01570	-.04690	-.00680
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 28 AUG 75

TACULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SPS - HEAT SHIELD ON SKIRT

(R1J014) (06 AUG 75)

REFERENCE DATA

SREF = 119.0000 SQ.FT. XREF = 114.1920 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0095

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 61/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYRM	CBL
3.480	80.000	.25280	-.19820	.37190	-.00470	.02400	-.00920
3.480	81.900	.30160	-.23490	.40860	-.01810	-.02780	-.00510
3.480	83.800	.32630	-.21640	.43530	-.01780	-.01850	-.01090
3.480	85.820	.30590	-.35280	.46880	-.01270	-.01580	-.00340
3.480	87.820	.34540	-.32010	.53390	-.00990	-.02240	-.00080
3.480	89.900	.37500	-.35970	.58430	-.01140	-.03160	-.00300
3.480	91.900	.41730	-.36650	.62290	-.01050	-.02650	.00290
3.480	93.900	.47160	-.27560	.62410	-.00780	-.00580	-.00420
3.480	95.900	.47060	-.26590	.61250	-.00790	.00590	-.00870
3.480	97.900	.44570	-.28910	.60690	-.01040	-.00790	-.00260
3.480	99.800	.44520	-.27880	.58530	-.01060	-.00480	-.00650
3.480	99.900	.39550	-.30040	.58970	-.00900	-.00900	-.00200
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

MSFC TMT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT (R1J015) (06 AUG 75)

REFERENCE DATA PARAMETRIC DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0008 PHI = 180.000 01MSAL = .000

RUN NO. 84/ 1 RN/L = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CEL
1.953	98.880	.47430	-.22470	.50480	-.00370	-.01470	.00330
1.953	101.900	.48700	-.31180	.51840	-.00340	-.01720	.00040
1.953	103.900	.50220	-.32010	.43250	.00110	-.02270	.00200
1.953	105.900	.50220	-.33870	.35670	.00000	-.01780	.00330
1.953	107.900	.51730	-.35340	.28650	-.00100	-.00870	-.00040
1.953	109.900	.51240	-.36590	.22750	.00030	-.01390	.00180
1.953	111.900	.51470	-.36680	.15000	-.00380	-.00770	-.00400
1.953	113.900	.51500	-.36460	.08450	-.00370	-.00270	-.00440
1.953	115.900	.51220	-.35380	.02470	-.00930	-.00700	-.00180
1.953	117.900	.50900	-.36110	-.03550	-.00930	.00250	-.00500
1.953	119.900	.49800	-.37350	-.09460	-.00650	.00780	-.00200
1.953	109.900	.50320	-.37370	.22650	.00040	-.01190	.00170
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 78/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CEL
2.740	100.900	.46540	-.28900	.52960	-.01910	-.03360	-.00460
2.740	101.900	.46460	-.33670	.45520	-.02120	-.02960	-.00430
2.740	103.900	.47810	-.32350	.38490	-.01620	-.03490	-.01000
2.740	105.900	.45230	-.43370	.31240	-.01310	-.03100	.01170
2.740	107.900	.46900	-.41750	.25070	-.01840	-.04020	-.01520
2.740	109.900	.46920	-.41530	.19540	-.02090	-.04710	-.01220
2.740	111.900	.48810	-.35440	.13950	-.01830	-.04430	-.00570
2.740	113.900	.49960	-.33940	.07580	-.02060	-.03210	-.01500
2.740	115.900	.50520	-.32260	.01690	-.01570	-.02550	-.01550
2.740	117.900	.49960	-.34420	-.05320	-.02060	-.03050	-.01600
2.740	119.900	.50410	-.35490	-.11210	-.02050	-.03350	-.01900
2.740	109.900	.48280	-.35980	.18560	-.02120	-.05120	-.02650
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 29 AUG 75

TABULATED SOURCE DATA, H8FC TNT 611 (8A30F)

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H8FC TNT 611 (8A30F) 618 - HEAT SHIELD ON SKIRT

(R1J015) (06 AUG 75)

REFERENCE DATA

REF = 115.0000 SQ.FT. XREF = 114.1850 IN. XM
LREF = 145.8400 IN. YREF = .0000 IN. YM
BREF = 145.8400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 00/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMI	CBL
3.480	100.000	.43710	-.26940	.57000	-.01930	-.03370	-.00040
3.480	101.500	.43700	-.25620	.52780	-.01750	-.03130	-.00280
3.480	103.000	.46500	-.25980	.44900	-.01510	-.02200	-.01570
3.480	105.000	.43170	-.38380	.38820	-.01940	-.03510	-.00750
3.480	107.000	.43580	-.38270	.32320	-.01000	-.01950	-.00730
3.480	109.000	.44410	-.40320	.26420	-.01420	-.01700	-.00150
3.480	111.000	.44800	-.40010	.21500	-.01880	-.03080	-.00450
3.480	113.000	.46120	-.31210	.15380	-.01890	-.02390	-.01590
3.480	115.000	.46550	-.30940	.09350	-.01890	-.02920	-.01190
3.480	117.000	.47650	-.36670	.02620	-.02310	-.03600	-.00810
3.480	119.000	.49370	-.38120	-.05500	-.02040	-.03600	-.01060
3.480	109.900	.46550	-.33020	.25840	-.01680	-.03060	-.01140
GRADIENT		.00000	.00000	.00000	.00700	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J016) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0005

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 19/ 0 RN/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CAN	CLMM	CA	CYM	CYMH	CEL
1.953	130.020	.65720	-.43740	-.19620	.00140	-.00800	-.00650
1.958	131.900	.65080	-.45450	-.19950	-.00180	-.00180	-.00970
1.958	133.900	.63870	-.46270	-.19340	-.00940	-.00470	-.00450
1.958	135.860	.62260	-.44600	-.23430	-.00060	-.00090	-.00740
1.958	137.900	.58530	-.43410	-.32670	.02130	-.00490	-.00950
1.958	139.900	.54430	-.43210	-.40040	.00520	-.00830	-.00910
1.958	141.900	.50630	-.43370	-.48400	-.01510	-.00040	-.01500
1.958	143.920	.41240	-.32870	-.58150	-.00380	-.00880	-.01020
1.958	145.920	.37890	-.31770	-.62690	.00290	-.02730	-.01030
1.958	147.900	.33980	-.33190	-.70940	-.00520	-.01340	-.01320
1.958	148.900	.32940	-.31690	-.74610	-.01760	-.01740	-.00590
1.958	139.900	.53410	-.43200	-.40620	.00030	-.02980	-.01450
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 90/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	AM	CLMM	CA	CYM	CYMH	CEL
2.740	130.000	.64300	-.42420	-.28040	-.01220	-.01320	-.01310
2.740	131.900	.64590	-.45030	-.25210	-.00700	-.00270	-.00920
2.740	133.900	.64150	-.44990	-.26090	-.01220	-.02600	-.01140
2.740	135.900	.60850	-.56800	-.31230	-.00720	-.01740	-.01640
2.740	137.920	.59270	-.45660	-.36920	-.00290	-.00990	-.01030
2.740	139.900	.52320	-.59850	-.42910	.00110	.00570	-.01540
2.740	141.900	.52010	-.50270	-.49660	.00550	.00390	-.01210
2.740	143.900	.51830	-.41390	-.57830	.00470	.02370	-.02750
2.740	145.900	.48070	-.42440	-.64960	.00660	.04500	-.02800
2.740	147.900	.43020	-.46520	-.72750	.02330	.10640	-.02590
2.740	149.800	.39310	-.44530	-.82990	.04440	.11790	-.03090
2.740	139.900	.57040	-.42800	-.45940	.00330	-.00560	-.02080
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 28 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SNG - HEAT SHIELD ON SKIRT

(RIJ016) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 88/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

RMACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CEL
3.480	130.000	.49000	-.35290	-.36280	-.00820	-.01430	-.01440
3.480	131.900	.62930	-.40920	-.28980	-.00610	-.00170	-.01330
3.480	133.900	.62670	-.39640	-.22080	-.00170	-.00260	-.00950
3.480	135.900	.59780	-.47340	-.25930	.00040	-.01100	-.01120
3.480	137.900	.58930	-.46000	-.32820	-.00190	-.02470	-.00830
3.480	139.920	.56240	-.49570	-.39670	.00430	.01300	-.02120
3.480	141.900	.53260	-.50240	-.45510	.00610	.02440	-.02080
3.480	143.900	.51570	-.43830	-.53070	.01240	.04420	-.01900
3.480	145.900	.47730	-.44350	-.60800	.02300	.08000	-.02920
3.480	147.900	.43170	-.49900	-.69300	.03870	.11940	-.02540
3.480	149.800	.33620	-.27980	1.03230	.00790	-.01310	-.01390
3.480	139.900	.57550	-.42520	-.03350	.00410	.01270	-.02290
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

MSFC TWT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT

(RIJ017) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 107/ 0 RM/L = 7.17 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
1.949	150.120	.33900	-.27660	-.72760	-.00380	.00260	-.00790
1.949	152.000	.31300	-.26470	-.62360	.00290	-.02110	-.01020
1.949	154.000	.28740	-.25680	-.90490	-.01570	-.01050	-.00770
1.949	155.980	.25310	-.26530	-.99560	-.00420	-.02240	-.00980
1.949	158.000	.22370	-.25290	-.1.07590	.00270	-.02830	-.0490
1.949	160.000	.19610	-.24800	-.1.14280	-.01150	-.01840	-.01210
1.949	162.000	.16210	-.22110	-.1.21240	-.01520	-.03670	-.00650
1.949	164.020	.12690	-.20480	-.1.25980	-.00120	-.05090	-.01070
1.949	166.020	.08840	-.20190	-.1.27950	.00240	-.05350	-.00840
1.949	168.020	.05960	-.19270	-.1.30730	-.00870	-.04300	-.01310
1.949	169.920	.04510	-.17490	-.1.33010	-.00320	-.05770	-.01290
1.949	160.000	.19520	-.23600	-.1.13510	-.01480	-.03010	-.01230
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 107/ 0 RM/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
2.740	150.090	.34920	-.27160	-.94550	-.01390	-.02810	-.01080
2.740	152.000	.32700	-.25180	-.1.04150	-.01200	-.03290	-.00960
2.740	154.000	.28500	-.24440	-.1.12740	-.01520	-.03180	-.00690
2.740	156.000	.21700	-.31920	-.1.19470	-.01360	-.03810	-.00500
2.740	158.000	.19320	-.26520	-.1.25360	-.01950	-.04800	-.01230
2.740	160.020	.15550	-.26770	-.1.30210	-.02280	-.04330	-.01570
2.740	162.000	.11540	-.27810	-.1.33590	-.02090	-.03100	-.00710
2.740	164.000	.11980	-.16730	-.1.36540	-.02170	-.05360	-.01750
2.740	166.000	.10170	-.12760	-.1.39130	-.02000	-.05180	-.02340
2.740	168.000	.06060	-.18400	-.1.39920	-.02280	-.06130	-.01700
2.740	169.900	.03860	-.16830	-.1.40740	-.02080	-.06460	-.01170
2.740	160.000	.15940	-.22760	-.1.30740	-.02530	-.04170	-.01400
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

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TABULATED SOURCE DATA, HSFCT TMT 611 (SA30F)

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HSFCT TMT 611 (SA30F) SFB - HEAT SHIELD ON SKIRT

(RIJ017) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0053

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RLN NO. 108/ 0 RN/L = 7.11 GRADIENT INTERVAL = -3.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CSL
3.480	150.000	.34420	-.24090	-.98190	-.03070	-.01590	-.01840
3.480	152.000	.33130	-.24980	-1.08250	-.01040	-.00690	-.01580
3.480	154.000	.28570	-.24720	-1.18320	-.01140	-.02610	-.01150
3.480	156.000	.21590	-.30270	-1.23400	-.01240	-.02250	-.01490
3.480	158.000	.17950	-.27270	-1.28820	-.01120	-.03130	-.01180
3.480	160.000	.12910	-.29980	-1.32590	-.00870	-.03390	-.01360
3.480	162.000	.10810	-.28390	-1.35890	-.01280	-.05010	-.01870
3.480	164.000	.11170	-.19290	-1.38700	-.01340	-.04010	-.02010
3.480	166.000	.08820	-.12570	-1.40300	-.01840	-.04980	-.01930
3.480	168.000	.05710	-.15800	-1.41800	-.01450	-.05350	-.01960
3.480	169.900	.03130	-.17800	-1.42510	-.01270	-.04510	-.02410
3.480	160.000	.13710	-.24920	-1.33410	-.01680	-.05000	-.01470
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 28 AUG 75

TABULATED SOURCE DATA. NSFC TMT 611 (SA30F)

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NSFC TMT 611 (SA30F) SUB - HEAT SHIELD ON SKIRT

(RIJ018) (06 AUG 75)

REFERENCE DATA

SREF = 118.0000 SQ.FT. XREF = 114.1000 IN. 2N
 LREF = 148.0400 IN. YREF = .0000 IN. 1N
 SREF = 148.0400 IN. ZREF = .0000 IN. 2N
 SCALE = .0058

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 8/ 0 RV/L = 7.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CSL
1.952	165.100	.12480	-.17760	-1.26210	-.00570	-.01760	-.00480
1.952	167.000	.08850	-.16850	-1.29320	.00850	-.02100	-.00510
1.952	169.000	.06490	-.14320	-1.30790	.00020	-.03990	-.00720
1.952	170.980	.04270	-.14960	-1.33000	-.1060	-.04380	-.00360
1.952	173.000	.03870	-.16940	-1.33260	-.00630	-.05580	-.00990
1.952	175.000	.01060	-.16010	-1.35940	-.00390	-.05040	-.01000
1.952	177.000	.00170	-.14540	-1.35150	.00540	-.05020	-.00960
1.952	179.020	-.02580	-.19610	-1.35170	.01820	-.06050	-.00730
1.952	181.000	-.04500	-.17720	-1.34300	.02810	-.07350	-.00860
1.952	183.020	-.05270	-.16250	-1.33310	-.00940	-.04590	-.00380
1.952	184.900	-.07720	-.14010	-1.34050	-.00710	-.05380	-.00260
1.952	175.000	.02310	-.19010	-1.34300	-.00350	-.06150	-.00750
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 118/ 0 RV/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CSL
2.740	165.100	.10280	-.16470	-1.37210	.01480	-.01150	-.00990
2.740	167.000	.07070	-.18760	-1.38770	.01430	-.01050	-.01140
2.740	169.000	.05950	-.14010	-1.40220	.00140	-.03230	-.01730
2.740	171.000	.01810	-.21820	-1.41310	-.00120	-.03190	-.01100
2.740	173.000	.00780	-.20330	-1.42610	-.00620	-.02880	-.00310
2.740	175.000	-.03790	-.30260	-1.44000	-.00170	-.01680	-.00950
2.740	177.000	-.03710	-.27560	-1.45100	-.00200	-.03250	-.01280
2.740	179.000	-.00660	-.15980	-1.45280	-.00260	-.02110	-.03940
2.740	181.000	-.02260	-.15730	-1.44550	-.00010	-.03540	-.01860
2.740	183.000	-.04280	-.19690	-1.43000	-.00010	-.00560	-.01740
2.740	184.900	-.05600	-.18260	-1.40880	-.00790	-.03680	-.01390
2.740	175.020	.00050	-.17070	-1.44120	-.00000	-.04420	-.01310
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 74

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

PAGE 38

MSFC TNT 011 (SA30F) SRS - HEAT SHIELD ON SKIRT

(R1J018) (06 AUG 75)

REFERENCE DATA

SREF	=	115.6000	SQ.FT.	X999	=	114,1950	IN.	YN
LBET	=	145.6400	IN.	Y999	=	.0000	IN.	YN
BBET	=	145.6400	IN.	Z999	=	.0000	IN.	ZN
SCALE	=	.00935						

PARAMETRIC DATA

PHI - 180.000 GIMBAL - .000

RUN NO. 117/ 0 RN/L = 7.12 GRADIENT INTERVAL = -3.00/ 5.00

[illegible]

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TNT 811 (SA30F)

PAGE 37

NSFC TNT 811 (SA30F) S8B - HEAT SHIELD ON SKIRT

(RIJ019) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 90.FT. 1000P = 114.1950 IN. IN
LREF = 145.6400 IN. 1000P = .0000 IN. YN
BREF = 145.6400 IN. 1000P = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 37/ 0 RV/L = 7.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL
1.956	60.000	.14380	-.11450	.13050	-.01400	-.01610	-.00870
1.956	62.000	.15430	-.13280	.15820	-.00630	-.01500	-.00590
1.956	64.000	.17270	-.13550	.18450	-.00610	-.01280	-.01240
1.956	66.000	.17590	-.19310	.22690	-.00570	-.01800	-.00950
1.956	68.020	.19350	-.20560	.27000	-.00390	-.03520	-.00610
1.956	70.000	.19930	-.23920	.31180	-.00340	-.02560	-.00580
1.956	72.000	.22900	-.22060	.35590	-.00950	-.01920	-.00780
1.956	74.000	.26080	-.18200	.40760	.00550	-.03350	-.00810
1.956	76.000	.28490	-.17030	.46200	.00450	-.03270	-.00880
1.956	78.000	.29090	-.19830	.51970	.01200	-.01980	-.00100
1.956	79.900	.30820	-.20050	.56270	.00510	-.03170	-.00540
1.956	70.000	.22270	-.18710	.31010	.00350	-.02370	-.01060
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 54/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL
2.740	60.100	.15120	-.06340	.11340	-.02630	.01730	-.01960
2.740	61.970	.16780	-.09800	.14500	-.02330	-.01820	-.01060
2.740	64.000	.18800	-.10330	.17470	-.01340	-.01260	-.02150
2.740	66.000	.18550	-.16430	.21090	-.00790	-.01810	-.00460
2.740	68.000	.19970	-.18440	.24390	-.01010	-.03520	-.00850
2.740	70.000	.19880	-.23050	.27770	-.00950	-.02580	-.01420
2.740	72.000	.23120	-.16630	.30940	-.01200	-.03250	-.00720
2.740	74.000	.26380	-.12180	.34700	-.01180	-.04180	-.01240
2.740	76.000	.29300	-.06940	.39390	-.00420	-.03740	-.01120
2.740	78.000	.28610	-.14500	.43260	-.01130	-.03200	-.01350
2.740	79.900	.31740	-.11570	.47460	-.01580	-.03740	-.01590
2.740	70.000	.22760	-.14240	.28160	-.00250	-.00430	-.00910
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY.

DATE 20 AUG 73

TABULATED SOURCE DATA, MSFC TWT 011 (SASOF)

PAGE 39

MSFC TWT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J018) (08 AUG 75)

REFERENCE DATA

SREF	=	110.0000	50.00	0000	110.1950	IN.	YN
LRIF	=	140.0400	00.00	0000	140.0400	IN.	YN
BRIF	=	140.0400	IN.	0000	140.0400	IN.	ZN
SCALE	=			.0005			

PHI - 180.000 GIMBAL - 2.500

PARAMETRIC DATA

RUN NO.	53/ 0	RM/L	= 7.12	GRADIENT INTERVAL	= -5.00/ 5.00
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[illegible]

REFERENCE DATA

SRF = 115.8000 SQ.FT. 30PP = 114.1850 IN. Y;

LREF = 145.8400 IN. 10PP = .0000 IN. YN

SRF = 145.8400 IN. 20PP = .0000 IN. ZN

SCALE = .0025

PARAMETRIC DATA

PHI = 180.000

GINBAL = 2.500

RUN NO. 34/ 0		RM/L = 7.58		GRADIENT INTERVAL = -5.00/ 5.00	
MACH	ALPHA	CMH	CLMH	CA	CYM
1.957	78.380	.29520	-.18080	.49480	-.00490
1.957	81.900	.29980	-.21230	.53550	-.00740
1.957	83.900	.31530	-.21540	.56540	-.00850
1.957	85.900	.31840	-.27220	.59960	-.01110
1.957	87.920	.33730	-.27230	.62880	-.00080
1.957	89.900	.35410	-.28050	.65930	-.00090
1.957	91.900	.36650	-.28220	.66910	-.00250
1.957	93.920	.40830	-.20360	.72160	-.00000
1.957	95.900	.42920	-.20490	.73100	-.00690
1.957	97.900	.42340	-.26710	.74030	-.00930
1.957	99.800	.44000	-.25990	.72520	-.00330
1.957	89.900	.36700	-.24270	.65800	-.00490
	GRADIENT	.00000	.00000	.00000	.00000
					.00000

RUN NO. 59/ 0		RM/L = 5.20		GRADIENT INTERVAL = -5.00/ 5.00	
MACH	ALPHA	CMH	CLMH	CA	CYM
2.740	80.000	.28910	-.16580	.45330	-.01310
2.740	81.900	.30740	-.17880	.49190	-.01530
2.740	83.900	.33440	-.14250	.53100	-.01750
2.740	85.900	.30770	-.27170	.57450	-.01460
2.740	87.900	.32710	-.25990	.61320	-.01200
2.740	89.900	.34140	-.28290	.65370	-.00910
2.740	91.900	.36460	-.27410	.70530	-.00910
2.740	93.900	.40760	-.24520	.75160	-.03490
2.740	95.900	.45870	-.17770	.78010	-.00190
2.740	97.900	.45310	-.24610	.78960	-.00250
2.740	99.800	.44790	-.22940	.76990	-.00520
2.740	89.900	.36480	-.21600	.68260	-.00900
	GRADIENT	.00000	.00000	.00000	.00000
					.00000

RUN NO. 59/ 0		RM/L = 5.20		GRADIENT INTERVAL = -5.00/ 5.00	
MACH	ALPHA	CMH	CLMH	CA	CYM
2.740	80.000	.28910	-.16580	.45330	-.01310
2.740	81.900	.30740	-.17880	.49190	-.01530
2.740	83.900	.33440	-.14250	.53100	-.01750
2.740	85.900	.30770	-.27170	.57450	-.01460
2.740	87.900	.32710	-.25990	.61320	-.01200
2.740	89.900	.34140	-.28290	.65370	-.00910
2.740	91.900	.36460	-.27410	.70530	-.00910
2.740	93.900	.40760	-.24520	.75160	-.03490
2.740	95.900	.45870	-.17770	.78010	-.00190
2.740	97.900	.45310	-.24610	.78960	-.00250
2.740	99.800	.44790	-.22940	.76990	-.00520
2.740	89.900	.36480	-.21600	.68260	-.00900
	GRADIENT	.00000	.00000	.00000	.00000
					.00000

REFERENCE DATA

SREF = 115.8000 90.FT. XREF = 114.1850 IN. XN

LREF = 145.8400 IN. YREF = .0000 IN. YN

BREF = 145.8400 IN. ZREF = .0000 IN. ZN

SCALE = .0035

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 80/ 8		RW/L = 7.12		GRADIENT INTERVAL = -5.00/ 5.00			
MACN	ALPHA	CMN	CLMN	CA	CYN	CYH	CSL
3.480	80.000	.26380	-.18450	.38510	-.01000	.00130	-.00470
3.480	81.900	.28080	-.18310	.42640	-.01650	-.02000	-.00270
3.480	83.900	.29790	-.17450	.46630	-.01630	-.02580	-.00670
3.480	85.900	.28940	-.26720	.50410	-.01350	-.01840	-.00400
3.480	87.900	.31150	-.27000	.55350	-.00860	-.01560	-.00470
3.480	89.900	.33330	-.29710	.62270	-.00800	-.02150	-.00450
3.480	91.900	.37850	-.30080	.69030	-.00500	-.02540	-.00680
3.480	93.900	.45070	-.20880	.74350	-.00190	-.04000	-.00020
3.480	95.900	.46730	-.21720	.78000	-.00160	-.03640	-.00210
3.480	97.900	.45120	-.23740	.76320	.00040	-.04170	.00130
3.480	99.800	.45050	-.20280	.74860	.00240	-.02610	-.00700
3.480	99.900	.36920	-.20440	.62870	-.01040	-.05520	-.00630
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

PAGE 41

MSFC TWT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J021) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XAPP = 114.1950 IN. XM
LREF = 145.0400 IN. YAPP = .0000 IN. YM
BREF = 145.0400 IN. ZAPP = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MBAL = 2.500

RUN NO. 23/ 2 RV/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CYN	CLMM	CA	CYM	CYMH	CBL
1.956	99.980	.45580	-.24480	.75980	.00100	-.03290	.00210
1.956	101.900	.46920	-.27420	.74700	.00580	-.02140	.00160
1.956	103.900	.47890	-.28320	.68030	.01040	-.01930	.00630
1.956	105.920	.47350	-.31960	.59900	.00330	-.02810	.00220
1.956	107.900	.49450	-.31260	.53030	.00080	-.03010	.00240
1.956	109.900	.49070	-.32200	.44800	-.00470	-.01220	-.00020
1.956	111.900	.48580	-.32820	.37150	-.00740	-.00800	.00230
1.956	113.900	.46570	-.33330	.30600	-.01020	-.00460	-.00430
1.956	115.900	.47810	-.34210	.24650	-.01010	.00200	-.00330
1.956	117.900	.47310	-.35180	.19450	-.01300	-.00240	-.00190
1.956	119.800	.46410	-.36040	.13330	-.01310	-.00200	-.00290
1.956	109.900	.48650	-.33300	.45130	-.00750	-.02150	-.00150
1.956	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 82/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CYN	CLMM	CA	CYM	CYMH	CBL
2.740	100.000	.46550	-.20910	.77790	.01980	.00430	.00730
2.740	101.900	.44440	-.23720	.74160	-.00020	-.03890	.00380
2.740	103.900	.45750	-.24190	.64480	-.00240	-.04370	.00060
2.740	105.900	.44660	-.31350	.54970	-.00960	.05190	-.00210
2.740	107.900	.44970	-.31490	.45940	-.01200	-.04500	-.00680
2.740	109.900	.43420	-.38540	.40330	-.01420	-.03240	-.00710
2.740	111.900	.43780	-.37760	.33990	-.01670	-.02960	-.01160
2.740	113.900	.46570	-.28060	.28690	-.01660	-.03110	-.00340
2.740	115.900	.46557	-.27850	.23120	-.01660	-.03030	-.00400
2.740	117.900	.45620	-.33140	.17490	-.02150	.05160	-.00570
2.740	119.800	.44510	-.34270	.11940	-.01690	-.01430	-.02210
2.740	109.900	.45240	-.32120	.39760	-.01920	-.04430	-.00460
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN

LREF = 145.6400 IN. YREF = .0000 IN. YN

BREF = 145.6400 IN. ZREF = .0000 IN. ZN

SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 2.500

RUN NO.		81/ 0	RM/L "	7.12	GRADIENT INTERVAL = -8.00/ 5.00	
MACH	ALPHA	CNM	CLNM	CA	CYN	CYNM
3.480	100.000	.44400	-.22110	.73820	.00240	-.04960
3.480	101.900	.42340	-.23780	.72440	.00900	-.03740
3.480	103.900	.42690	-.23790	.72780	.00450	-.04300
3.480	105.900	.41330	-.31950	.69000	.00250	-.03960
3.480	107.900	.42460	-.32460	.60830	-.00410	-.05030
3.480	109.900	.42580	-.32900	.51950	-.00620	-.01960
3.480	111.900	.42130	-.34780	.47370	-.01080	-.03550
3.480	113.900	.43250	-.32130	.38280	-.01300	-.01000
3.480	115.900	.45330	-.27250	.32390	-.00840	-.02060
3.480	117.900	.43730	-.32100	.27380	-.01050	-.00970
3.480	119.800	.44510	-.30570	.21730	-.01510	-.03320
3.480	109.900	.43210	-.29960	.51020	-.00630	-.04590
GRAD: NT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J022) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
 LREF = 145.0000 IN. YREF = .0000 IN. YN
 SREF = 145.0000 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

PARAMETRIC DATA

PMI = 180.000 01PMAL = 2.500

RUN NO. 20/ 0 RM/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CA	CYN	CEB
1.949	130.000	.70640	-.49080	-.09080	.00460	.01020
1.949	131.900	.70220	-.51950	-.09560	.01060	.01380
1.949	133.900	.70900	-.51980	-.06800	.00020	.01250
1.949	135.880	.69200	-.50560	-.09400	.01180	.00830
1.949	137.800	.63850	-.49130	-.17960	.02280	.00780
1.949	139.900	.59320	-.47940	-.27130	.02180	.00610
1.949	141.800	.55070	-.46170	-.38450	.02240	.00030
1.949	143.920	.50390	-.45170	-.53210	.03410	.00710
1.949	145.900	.40550	-.35740	-.58400	.04050	.00490
1.949	147.900	.35040	-.33960	-.60940	.01880	.00400
1.949	148.900	.32320	-.34330	-.60940	.01880	.00400
1.949	139.900	.57740	-.50400	-.27110	.00940	.00090
1.949	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 87/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CA	CYN	CEB
2.740	130.000	.43720	-.32120	-.18100	-.00940	.00870
2.740	131.900	.55160	-.42530	-.13590	-.00920	.01340
2.740	133.900	.61510	-.37960	-.08220	-.00830	.01400
2.740	135.900	.59500	-.48090	-.11750	-.00580	.00790
2.740	137.920	.57900	-.44170	-.18030	-.00590	.00460
2.740	139.900	.54670	-.46900	-.25490	-.01160	.01560
2.740	141.900	.52400	-.44800	-.34050	-.00710	.01210
2.740	143.900	.52190	-.36510	-.41260	.01210	.01930
2.740	145.900	.48750	-.39000	-.48170	.00540	.01600
2.740	147.900	.43740	-.46340	-.57570	.00090	.01410
2.740	149.800	.27600	-.21330	-.65360	.03020	.00940
2.740	139.900	.55810	-.41150	-.26770	-.00930	.01220
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TWT 811 (SA30F)

PAGE 44

NSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(RI.722) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 90.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 66/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CAN	CLMM	CA	CYN	CYNN	CEL
3.480	130.000	.46950	-.32290	-.11500	-.01200	-.01770	-.00860
3.480	131.900	.44800	-.34630	-.18610	-.00760	-.00370	-.00700
3.480	133.900	.56840	-.37950	-.07710	-.00940	-.02150	-.00470
3.480	135.900	.55690	-.45060	-.06330	-.01200	-.01270	-.01760
3.480	137.920	.55210	-.42020	-.13630	-.01010	-.09610	-.00970
3.480	139.920	.53260	-.47250	-.20920	-.00770	-.01610	-.01240
3.480	141.900	.53090	-.47110	-.29980	-.01010	-.00580	-.02070
3.480	143.900	.53050	-.37440	-.36520	-.01050	.00810	-.01650
3.480	145.900	.48050	-.42200	-.45630	.00270	.03750	-.00950
3.480	147.900	.42820	-.49950	-.53590	.00440	.05670	-.01820
3.480	149.800	.27370	-.19670	-.63000	-.01380	.04450	-.00590
3.480	139.900	.55890	-.36750	-.22500	-.00560	-.01770	-.01410
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, HEFC TWT 611 (SAS307)

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HEFC TWT 611 (SAS307) SUB - HEAT SHIELD ON SKIRT

(R1J023) (08 AUG 75)

REFERENCE DATA

SWEP = 118.0000 90. FT. SWEP = 114.1820 IN. 2N
LREF = 148.8400 IN. YREF = .0000 IN. 1N
SWEP = 148.8400 IN. ZREF = .0000 IN. 2N
SCALE = .0000

PARAMETRIC DATA

PHI = 180.000 01MBAL = 2.800

RUN NO. 9/ 9 RW/L = 7.10 GRADIENT INTERVAL = -5.00/ 9.00

MACH	ALPHA	CNN	CLPM	CA	CYN	CYMH	CEL
1.948	150.120	.34800	-.28418	-.48220	-.00360	.00650	-.00540
1.948	152.320	.30950	-.28400	-.55910	-.00910	-.00920	-.00600
1.948	154.020	.28870	-.25870	-.65660	-.04450	-.00780	-.01180
1.948	155.980	.25620	-.26020	-.74280	-.02840	-.02380	-.00890
1.948	158.000	.23240	-.24700	-.83310	-.01980	-.02620	-.00800
1.948	160.000	.20710	-.23440	-.93820	-.04150	-.03030	-.01290
1.948	162.020	.17400	-.25570	-.1.07100	-.02980	-.06260	-.00550
1.948	164.020	.13750	-.25440	-.1.14730	-.02770	-.04830	-.00720
1.948	166.020	.10420	-.23210	-.1.20580	-.01650	-.05620	-.00830
1.948	168.320	.06800	-.22370	-.1.25330	-.02640	-.05750	-.00820
1.948	169.920	.04390	-.21900	-.1.30400	-.00890	-.05730	-.01010
1.948	160.000	.19790	-.27200	-.93680	-.03590	-.00750	-.01410
1.948	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 110/ 0 RW/L = 9.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLPM	CA	CYN	CYMH	CEL
2.740	150.090	.29030	-.23480	-.58100	-.02010	.01260	-.01980
2.740	152.000	.26870	-.21750	-.70830	-.06840	-.00700	-.01940
2.740	154.000	.27840	-.28410	-.85690	-.04960	-.02210	-.01690
2.740	156.000	.21960	-.35050	-.97890	-.06030	-.10550	-.01350
2.740	158.000	.18460	-.33390	-.1.06750	-.02890	-.01740	-.01260
2.740	160.000	.14810	-.32990	-.1.14890	-.03210	-.03210	-.01160
2.740	162.000	.12040	-.30500	-.1.22090	-.02550	-.00940	-.01880
2.740	164.000	.11170	-.23870	-.1.28050	-.02860	-.02630	-.01790
2.740	166.000	.09480	-.17790	-.1.32150	-.02950	-.04870	-.01980
2.740	168.000	.03940	-.26190	-.1.35700	-.03020	-.04900	-.02400
2.740	169.900	.02180	-.22710	-.1.37720	-.02830	-.05310	-.02590
2.740	160.000	.15600	-.28410	-.1.16610	-.04730	-.07050	-.02210
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 26 AUG 75

TABULATED SOURCE DATA, MSC TMT 811 (SA30F)

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MSC TMT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT

(R1J023) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PHI = 180.000 GIMBAL = 2.500

PARAMETRIC DATA

RUN NO. 109/ 0 RM/L = 7.1 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CSL
3.480	150.090	.26480	-.18780	-.57150	-.02530	.00170	-.01050
3.480	152.000	.26940	-.16680	-.68090	-.06730	-.00510	.03210
3.480	154.000	.27230	-.25870	-.89460	-.07040	-.02170	-.00600
3.480	156.000	.22950	-.33940	-1.02630	-.03940	-.04440	-.01650
3.480	158.000	.18410	-.33390	-1.12080	-.02430	-.01340	-.01730
3.480	160.000	.13690	-.34080	-1.19860	-.02750	-.02240	-.02030
3.480	162.000	.10360	-.31070	-1.25920	-.02380	-.01760	-.01750
3.480	164.000	.09490	-.23090	-1.30770	-.02900	-.03190	-.01760
3.480	166.000	.07790	-.19600	-1.35090	-.02970	-.03790	-.02300
3.480	168.000	.03260	-.23200	-1.37900	-.02580	-.04420	-.01750
3.480	169.900	.01960	-.20030	-1.39820	-.02630	-.04310	-.01960
3.480	160.000	.13710	-.29740	-1.20680	-.03230	-.03730	-.01520
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA
SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0055
PHI = 180.000 GIMBAL = 2.500
PARAMETRIC DATA

RUN NO. 8/ 0 RM/L = 7.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CA	CYM	CYMM	CEL
1.963	.95.100	.13520	-.21810	-1.16860	-.02360	-.01520	-.00576
1.963	167.000	.09760	-.21690	-1.21360	-.01940	-.01250	-.01070
1.963	169.020	.06570	-.19420	-1.28610	-.01160	-.03880	-.00500
1.963	171.000	.04540	-.20250	-1.31180	-.01350	-.04200	-.00630
1.963	173.000	.02390	-.18550	-1.32950	-.02330	-.05960	-.00830
1.963	175.000	.00100	-.11110	-1.33720	-.01920	-.04500	-.01030
1.963	177.000	-.03180	-.20660	-1.35590	-.01650	-.05410	-.01060
1.963	179.020	-.05310	-.21390	-1.37340	-.01100	-.05880	-.01080
1.963	181.020	-.07430	-.11280	-1.35860	.00800	-.04920	-.01090
1.963	183.020	-.08500	-.19700	-1.36900	-.01160	-.04680	-.00790
1.963	184.920	-.11000	-.19310	-1.38270	-.01670	-.03770	-.01090
1.963	175.000	-.00660	-.21550	-1.34730	-.01310	-.03790	-.00950
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 115/ 0 RM/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CA	CYM	CYMM	CEL
2.740	165.100	.09340	-.21480	-1.38760	-.02410	-.01110	-.01450
2.740	167.000	.06640	-.19690	-1.42210	-.02990	-.03960	-.01910
2.740	169.000	.04430	-.17700	-1.44830	-.02550	-.03590	-.01760
2.740	171.000	-.01160	-.27380	-1.46580	-.02610	-.02610	-.02210
2.740	173.000	-.03850	-.28080	-1.48040	-.02150	-.01510	-.01370
2.740	175.000	-.05750	-.28080	-1.49630	-.02940	-.03410	-.01800
2.740	177.000	-.06730	-.26610	-1.51260	-.02960	-.02580	-.01990
2.740	179.000	-.05590	-.18230	-1.53290	-.02260	-.03220	-.01740
2.740	181.000	-.06580	-.17890	-1.53000	-.02530	-.03130	-.02190
2.740	183.000	-.07630	-.18980	-1.53260	-.03290	-.03920	-.02270
2.740	184.900	-.09650	-.20360	-1.51610	-.03390	-.02950	-.05780
2.740	175.000	-.03440	-.19580	-1.50080	-.02960	-.03740	-.02270
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, HSEFC TWT 811 (SA30F)

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HSEFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(RIJ024) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 0118AL = 2.500

RUN NO. 118/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLPM	CA	CYM	CYMH	CBL
3.480	165.100	.06710	-.20100	-1.41750	-.02290	-.02290	-.01980
3.480	167.000	.04480	-.23810	-1.44800	-.02300	-.02550	-.01190
3.480	169.000	.03590	-.18040	-1.47010	-.02570	-.02830	-.00530
3.480	171.000	-.01150	-.25790	-1.48760	-.02650	-.02890	-.02190
3.480	173.000	-.04530	-.30880	-1.50070	-.02900	-.03740	-.01220
3.480	175.000	-.05890	-.28430	-1.51240	-.02740	-.02360	-.02420
3.480	177.000	-.07060	-.26160	-1.52630	-.03010	-.04710	-.02120
3.480	179.000	-.05550	-.20220	-1.53800	-.02100	-.03310	-.01910
3.480	181.000	-.05680	-.17190	-1.53720	-.02350	-.03820	-.02330
3.480	183.000	-.07930	-.19680	-1.53260	-.02590	-.02490	-.01570
3.480	184.900	-.08480	-.18680	-1.52460	-.03070	-.02520	-.02330
3.480	175.000	-.04210	-.22530	-1.51840	-.03210	-.03830	-.02790
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, HEFC THT 811 (8A30F)

PAGE 48

HEFC THT 811 (8A30F) 808 - HEAT SHIELD ON SKIRT

(RIJ025) (08 AUG 75)

REFERENCE DATA

WREF = 115.8800 80.FT. WREF = 114.1800 IN. 3M
 LREF = 145.6400 IN. WREF = .0000 IN. 7M
 WREF = 145.6400 IN. ZREF = .0000 IN. 2M
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 SIGNAL = 5.000

RUN NO. 38/ 8 RW/L = 7.68 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CHI	CLMH	CA	CYM	CYMH	CBL
1.952	60.100	.20000	-.14678	.15480	-.02380	-.00680	.00200
1.952	62.000	.21080	-.16530	.16290	-.01320	-.01510	.00210
1.952	64.000	.23130	-.22030	.21440	-.00720	-.02430	-.00110
1.952	66.000	.24620	-.25540	.25290	-.00380	-.03130	.00210
1.952	68.000	.27490	-.24590	.29800	-.00340	-.02880	.00000
1.952	70.000	.29330	-.25850	.34210	-.00430	-.03630	.00270
1.952	72.000	.31370	-.27650	.38380	-.00250	-.02960	.00050
1.952	74.000	.33480	-.21730	.42460	-.00630	-.02750	-.00250
1.952	76.000	.37960	-.21500	.47780	-.01160	-.03270	-.00160
1.952	78.000	.38100	-.26230	.52790	-.01550	-.03560	.00010
1.952	78.900	.39500	-.26130	.56040	-.01790	-.03320	.00280
1.952	70.000	.30960	-.22550	.34270	-.00300	-.03210	-.00010
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 55/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CHI	CLMH	CA	CYM	CYMH	CBL
2.740	60.100	.20600	-.08870	.13720	-.02230	.00160	-.00480
2.740	61.970	.22570	-.12630	.16830	-.02680	-.00730	-.00730
2.740	64.000	.25140	-.14190	.19320	-.01420	-.00920	-.01320
2.740	66.000	.23490	-.23980	.23020	-.01140	-.02680	-.00550
2.740	68.000	.26070	-.22070	.26110	-.00390	-.04460	-.00860
2.740	70.000	.26960	-.26330	.29450	-.00340	-.04060	-.00660
2.740	72.000	.29600	-.27010	.33090	-.00290	-.02700	-.01210
2.740	74.000	.35040	-.14780	.37000	-.00980	-.03590	-.00280
2.740	76.000	.36570	-.15240	.40940	-.02190	-.03980	-.01290
2.740	78.000	.36940	-.19650	.45250	-.02400	-.03460	-.01150
2.740	79.900	.39680	-.19820	.48520	-.02610	-.02900	-.01090
2.740	70.000	.30240	-.17380	.29970	-.00590	-.05740	-.00660
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J025) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XSWP = 114.1830 IN. XM
LREF = 145.8400 IN. YSWP = .0000 IN. YN
SREF = 145.8400 IN. ZSWP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 58/ 0 RV/L = 7.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYN	CYNN	CBL
3.480	60.100	.19040	-.08310	.11120	-.04160	-.00560	-.00950
3.480	81.970	.20040	-.11490	.14300	-.03200	-.02010	-.00760
3.480	64.000	.22410	-.11870	.16490	-.02010	-.01510	-.00140
3.480	66.020	.20790	-.20440	.19380	-.00190	-.02940	-.00490
3.480	68.000	.23590	-.21140	.21630	-.00580	-.02160	-.00700
3.480	70.020	.25040	-.21490	.24730	-.00770	-.04870	.00210
3.480	72.000	.25800	-.24970	.27680	-.00980	-.04580	-.00260
3.480	74.000	.31570	-.11910	.30520	-.01400	-.03320	-.00480
3.480	76.000	.32210	-.14920	.34180	-.02040	-.02480	-.00470
3.480	78.000	.32590	-.20180	.37580	-.02230	-.02850	-.00240
3.480	79.900	.35130	-.18770	.41100	-.02200	-.02810	-.00720
3.480	70.000	.25930	-.18750	.24940	-.00550	-.04750	-.00100
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

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TABULATED SOURCE DATA, HEFC TWT 811 (8A30F)

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HEFC TWT 811 (8A30F) SWS - HEAT SHIELD ON SKIRT

(R1J026) (08 AUG 78)

REFERENCE DATA

SREF = 115.0000 90.00 FT. XREF = 114.1000 IN. IN
LREF = 145.0000 IN. YREF = .0000 IN. IN
SREF = 145.0000 IN. ZREF = .0000 IN. IN
SCALE = .0000

PARAMETRIC DATA

PM1 = 180.000 SIGNAL = 5.000

RUN NO. 35/ 0 PM/L = 7.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CH	CLM	CA	CYM	CYH	CBL
1.959	80.000	.38528	-.24888	.50330	-.01950	-.02920	.00300
1.959	81.900	.38720	-.26120	.53060	-.01520	-.02370	.00010
1.959	83.900	.41570	-.26480	.55590	-.01630	-.02050	-.00070
1.959	85.900	.42020	-.33130	.59830	-.01740	-.03640	.00100
1.959	87.920	.44860	-.32960	.63720	-.00980	-.03020	.00160
1.959	89.900	.46550	-.34760	.69830	-.00900	-.04160	.00290
1.959	91.900	.50410	-.30010	.74750	-.00900	-.04430	.00430
1.959	93.900	.53680	-.27060	.77450	-.00720	-.04120	.00180
1.959	95.900	.55510	-.27530	.79430	-.00830	-.04550	.00310
1.959	97.900	.55090	-.33720	.80020	-.00220	-.02190	.01650
1.959	99.800	.55270	-.32220	.77640	-.00510	-.04620	.00690
1.959	89.900	.46530	-.29310	.69910	-.01240	-.04570	.00550
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 56/ 0 PM/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CH	CLM	CA	CYM	CYH	CBL
2.740	80.000	.42470	-.22390	.46710	-.01780	-.01850	-.00750
2.740	81.900	.38870	-.23620	.46840	-.01590	-.01620	-.00560
2.740	83.900	.39690	-.26980	.52040	-.01550	-.03170	-.00240
2.740	85.900	.41270	-.31890	.54740	-.01020	-.02210	-.00970
2.740	87.900	.42730	-.33100	.59110	-.00980	-.03130	-.00390
2.740	89.900	.45200	-.35140	.64270	-.00420	-.04360	.00370
2.740	91.900	.49900	-.30840	.71000	-.00630	-.06400	.00020
2.740	93.900	.55930	-.24560	.77250	-.02160	.02300	-.00030
2.740	95.900	.58050	-.25200	.79850	-.00020	-.04030	-.00350
2.740	97.900	.56290	-.29570	.80460	-.00220	-.03270	.00330
2.740	99.800	.56620	-.25380	.79360	-.00800	-.03950	-.00620
2.740	89.900	.47920	-.26500	.64970	-.00670	-.04790	-.00010
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC THT 811 (SA30F)

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NSFC THT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J026) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 57/ 0 RW/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLPM	CA	CYM	CYNH	CEL
3.480	80.020	.34480	-.19030	.38830	-.01530	-.02110	-.00430
3.480	81.900	.36500	-.20050	.41720	-.01480	-.02930	-.00480
3.480	83.900	.39130	-.20500	.45250	-.01670	-.03590	-.00880
3.480	85.900	.39020	-.32600	.46820	-.01140	-.04130	.00540
3.480	87.900	.42670	-.32480	.55100	-.00620	-.02880	-.00390
3.480	89.900	.45830	-.37130	.62400	-.00530	-.05430	.00530
3.480	91.900	.51210	-.37730	.67670	-.00440	-.03800	-.00430
3.480	93.900	.56830	-.27390	.70320	-.00620	-.05570	.00000
3.480	95.900	.57720	-.24560	.72600	-.00400	-.04890	-.00040
3.480	97.900	.55140	-.29340	.75190	-.00180	-.04030	-.00050
3.480	99.800	.54880	-.26520	.77150	-.00430	-.06320	.00510
3.480	89.900	.49620	-.26350	.63090	-.00760	-.05530	.00060
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

TABULATED SOURCE DATA, HEAT THT 811 (SAL30F)

HEAT THT 811 (SAL30F) 808 - HEAT SHIELD ON SKIRT (R1J027) (08 AUG 75)

PARAMETRIC DATA

REFERENCE DATA

REF = 118.0000 80.00 114.1850 IN. 1M PHI = 180.000 61MBAL = 5.000
LREF = 145.8400 IN. 1MPP = .0000 IN. 1M
REF = 145.8400 IN. 2MPP = .0000 IN. 2M
SCALE = .0025

RUN NO. 22/ 3 RNU/L = 7.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL
1.946	99.900	.57280	-.29250	.78940	.00480	-.03540	.00760
1.946	101.900	.58500	-.31500	.78540	.00480	-.03820	.00860
1.946	103.900	.59980	-.34020	.78120	.00200	-.03920	.00730
1.946	105.920	.58980	-.34550	.73040	.00810	-.03250	.00130
1.946	107.900	.60050	-.36050	.67350	.00240	-.03280	.00360
1.946	109.900	.58870	-.38220	.60160	.00240	-.03070	.00070
1.946	111.900	.58180	-.38790	.52820	.00090	-.01550	.00040
1.946	113.900	.57560	-.39490	.46880	-.00060	-.02090	.00190
1.946	115.900	.56840	-.38800	.41480	-.00370	-.01960	.00230
1.946	117.900	.56120	-.39620	.36570	-.00530	-.01380	.00030
1.946	119.800	.55820	-.40530	.30590	-.00400	-.01830	-.00140
1.946	109.900	.58290	-.39870	.60850	-.00060	-.04040	.00510
1.946	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 83/ 0 RNU/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CBL
2.740	100.000	.57680	-.21850	.80010	-.00300	-.05200	-.00110
2.740	101.900	.55390	-.26490	.77730	-.00560	-.06310	-.00060
2.740	103.900	.56100	-.28460	.78300	-.01530	-.07490	-.00400
2.740	105.900	.52470	-.41070	.73240	-.01250	-.06880	.00150
2.740	107.900	.53890	-.37220	.64750	-.01240	-.07590	.00430
2.740	109.900	.50900	-.45490	.57860	-.01250	-.04970	-.00400
2.740	111.900	.52080	-.41190	.51680	-.01510	-.04040	-.01290
2.740	113.900	.50590	-.30520	.46270	-.01530	-.07130	-.01290
2.740	115.900	.54460	-.30020	.40720	-.01520	-.04460	-.00920
2.740	117.900	.52170	-.36130	.35740	-.01530	-.05380	-.00820
2.740	119.800	.51710	-.35440	.30220	-.01550	-.05050	-.01290
2.740	109.900	.53190	-.36600	.57110	-.01500	-.07290	-.00070
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(R1J027) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XPRP = 114.1950 IN. XM
LREF = 145.8400 IN. YPRP = .0000 IN. YM
BREF = 145.8400 IN. ZPRP = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 84/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMH	CLWH	CA	CYM	CYNH	CEL
3.480	100.000	.54810	- .23310	.75370	-.00440	-.06580	.00570
3.480	101.900	.52690	-.28330	.74090	-.00450	-.06610	.00650
3.480	103.800	.52980	-.27980	.72480	-.00920	-.06550	.00150
3.480	105.900	.51020	-.34180	.75420	-.01140	-.04120	-.00250
3.480	107.900	.51180	-.34350	.76740	-.01150	-.06940	-.00330
3.480	109.900	.50610	-.40340	.70110	-.01800	-.06110	-.00380
3.480	111.900	.50650	-.38320	.61760	-.01810	-.06910	-.00150
3.480	113.900	.52890	-.30730	.55630	-.01130	-.05670	-.00310
3.480	115.900	.53200	-.28770	.50260	-.01150	-.04410	-.01130
3.480	117.900	.51150	-.33160	.45260	-.01150	-.05530	-.00440
3.480	119.800	.50540	-.35250	.39690	-.01370	-.04080	-.00900
3.480	109.900	.52510	-.33390	.69580	-.01820	-.08770	-.00300
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

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TABULATED SOURCE DATA, HSPC TMT 811 (SA30F)

PAGE 05

HSPC TMT 811 (SA30F) SFB - HEAT SHIELD ON SKIRT

(R1J028) (05 AUG 75)

REFERENCE DATA

SRZF = 115.0000 50.FT. XREF = 114.1250 IN. XM
LREF = 145.8400 IN. YREF = .0000 IN. YM
SRZF = 145.8400 IN. ZREF = .0000 IN. ZM
SCALE = .0005

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 81/ 0 RV/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CEL
1.952	130.000	.67240	-.45230	.06950	.01080	-.01520	.00320
1.952	131.000	.67950	-.47460	.04740	.02020	-.00720	.00100
1.952	133.000	.69470	-.46590	.02060	.00960	-.01260	-.00030
1.952	135.000	.67750	-.48950	.01820	.01560	-.01950	-.00270
1.952	137.000	.68940	-.49810	.04800	.01280	-.02670	-.00350
1.952	139.000	.64030	-.49490	-.05460	.01040	-.03130	-.00100
1.952	141.000	.59560	-.47670	-.14100	.00780	-.03310	-.00160
1.952	143.000	.54480	-.44360	-.21560	-.01270	-.03900	-.00430
1.952	145.000	.49390	-.43190	-.32340	-.00170	-.02230	-.01060
1.952	147.000	.40120	-.35680	-.41160	.00360	-.02900	-.00370
1.952	149.000	.37480	-.37920	-.41390	-.01040	-.02030	-.00730
1.952	139.000	.63330	-.49180	-.04370	.00390	-.04470	-.00640
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 86/ 0 RV/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CEL
2.740	130.000	.48830	-.38690	-.00280	-.00840	-.05990	-.01100
2.740	131.000	.46880	-.39820	-.06800	-.00110	-.04810	-.00200
2.740	133.000	.65040	-.43210	-.00260	.00180	-.04650	-.00430
2.740	135.000	.60960	-.83380	.03830	-.00030	-.04470	-.00520
2.740	137.000	.81160	-.61700	.04380	-.00280	-.06530	-.00420
2.740	139.000	.58320	-.53870	-.02580	-.00330	-.06650	-.01230
2.740	141.000	.55050	-.51300	-.13290	-.00170	-.05740	-.01670
2.740	143.000	.54170	-.42280	-.24180	.00010	-.05380	-.01440
2.740	145.000	.50130	-.41490	-.34290	.02150	-.01060	-.01640
2.740	147.000	.42490	-.51990	-.43540	.03070	.02590	-.01150
2.740	149.000	.29490	-.33490	-.47590	.03180	.00790	-.01440
2.740	139.000	.55670	-.45580	-.05480	-.00350	-.06020	-.01180
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 20 AUG 76

TABULATED SOURCE DATA, MSFC TWT 811 (8A30F)

PAGE 56

MSFC TWT 811 (8A30F) LRB - HEAT SHIELD ON SKIRT

(R1J088) (06 AUG 76)

REFERENCE DATA

SREF = 119.8000 SQ.FT. XREF = 114.1.50 IN. XM
LREF = 145.8400 IN. YREF = .0000 IN. YM
SREF = 145.8400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 85/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLPM	CA	CYN	CYMH	CSL
3.480	130.000	.51570	-.37390	.05710	-.00200	-.04070	-.01190
3.480	131.000	.48300	-.41460	-.00170	.00000	-.04850	.00020
3.480	133.000	.46970	-.38240	-.07520	.00160	-.03990	-.00950
3.480	135.000	.57900	-.48680	.00260	.00690	-.01640	-.00500
3.480	137.000	.57690	-.47370	.08010	.01130	-.02870	-.00050
3.480	139.000	.56290	-.45740	.03040	.00390	-.03960	-.00880
3.480	141.000	.53790	-.47160	-.07910	.00360	-.04590	-.00720
3.480	143.000	.54700	-.39150	-.19540	.00550	-.04770	-.00990
3.480	145.000	.50810	-.44200	-.30970	.00970	-.03170	-.01210
3.480	147.000	.43750	-.54020	-.39960	.03660	.03750	-.00900
3.480	149.000	.38050	-.62110	-.48090	.06140	.09120	-.00170
3.480	139.000	.58100	-.38530	.01250	.01080	-.02620	-.00410
GRADIENT		.00000	.00000	.00000	.00070	.00000	.00000

REFERENCE DATA

NSFC TWT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT

PHI = 180.000 01MBAL = 5.000

SCALE = .0025

YREF = 115.0000 SQ.FT. XREF = 114.1850 IN. XM

YREF = 145.6400 IN. YREF = .0000 IN. YM

YREF = 145.6400 IN. ZREF = .0000 IN. ZM

RUN NO. 8/ 0		RV/L = 7.08		GRADIENT INTERVAL = -5.00/ 5.00			
HACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL
1.924	150.000	.39300	-.32010	-.39720	.05000	-.00470	-.00290
1.924	152.000	.34970	-.30780	-.42620	.01770	-.01640	.00460
1.924	154.000	.30960	-.27230	-.51520	.00000	-.01170	-.00240
1.924	156.000	.27300	-.27660	-.61140	.01440	-.01460	-.00300
1.924	158.000	.23920	-.27580	-.70750	.01520	-.01750	.00000
1.924	160.000	.21050	-.26010	-.82280	-.00500	-.01670	-.00540
1.924	162.000	.17500	-.24030	-.94090	-.01050	-.02900	-.00210
1.924	164.020	.13070	-.25090	-1.03890	-.00980	-.04340	-.00890
1.924	166.020	.10040	-.23130	-1.11710	.00890	-.03530	-.00990
1.924	168.020	.06030	-.22720	-1.18810	.00050	-.05260	-.00890
1.924	169.920	.02840	-.22680	-1.25250	-.00310	-.05470	-.00760
1.924	160.000	.00240	-.27450	-.81840	-.00370	-.02840	-.00450
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 111/ 0		RV/L = 5.20		GRADIENT INTERVAL = -5.00/ 5.00			
HACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CBL
2.740	150.000	.26880	-.19180	-.53860	-.12790	.03880	-.01280
2.740	152.000	.31210	-.20840	-.71800	-.13690	.02850	-.01830
2.740	154.000	.29050	-.26250	-.93030	-.03930	.00590	-.01410
2.740	156.000	.21250	-.34570	-1.04340	-.04290	.00270	-.01050
2.740	158.000	.16730	-.31520	-1.12270	-.04130	-.00320	-.00410
2.740	160.000	.10970	-.34540	-1.18690	-.05240	-.01440	-.02130
2.740	162.000	.07940	-.30260	-1.25480	-.06290	-.01370	-.01350
2.740	164.000	.08480	-.17230	-1.30780	-.06610	-.02730	-.01720
2.740	166.000	.05750	-.16480	-1.36330	-.06190	-.01840	-.02300
2.740	168.000	.01680	-.17810	-1.40710	-.06020	-.02050	-.02160
2.740	169.900	-.01740	-.19870	-1.43300	-.05600	-.03970	-.02120
2.740	160.000	.12390	-.26180	-1.19680	-.05750	-.03330	-.01590
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 28 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

PAGE 58

MSFC TMT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT

(R1J029) (06 AUG 75)

REFERENCE DATA

SREF = 115.6800 SO.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 112/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

INCH	ALPHA	CMH	CLMH	CA	CYM	CYMH	CEL
3.480	150.000	.44120	-.56120	-.56710	.02640	.13430	.00410
3.480	152.000	.34390	-.74610	-.64680	.02310	.11060	.00130
3.480	154.000	.26990	-.19350	-.89830	-.08150	.05560	-.01150
3.480	156.000	.21830	-.44070	-1.10760	-.04090	-.01580	-.00740
3.480	158.020	.15910	-.43780	-1.18650	-.03990	-.01730	-.01150
3.480	160.020	.09980	-.42640	-1.25640	-.04810	-.05060	-.01160
3.480	162.000	.05320	-.38770	-1.31490	-.04470	-.04110	-.01340
3.480	164.000	.04010	-.29040	-1.36160	-.05010	-.04960	-.00860
3.480	166.000	.01400	-.25840	-1.40020	-.05100	-.05070	-.02100
3.480	168.000	-.03750	-.31210	-1.43780	-.05630	-.05950	-.01650
3.480	169.900	-.06220	-.31900	-1.46010	-.05450	-.06840	-.01710
3.480	160.000	.09840	-.37300	-1.25940	-.05770	-.06290	-.01710
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA
SREF = 115.0000 90.FT. XREF = 114.1000 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0025
PARAMETRIC DATA
PHI = 180.000 GIMBAL = 5.000

RUN NO. 7/ 8 RW/L = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL
1.952	165.100	.12810	-.23070	-1.06940	.00210	-.02210	-.00800
1.952	167.000	.09320	-.20550	-1.13230	.01050	-.02320	-.00170
1.952	169.000	.05430	-.21340	-1.21360	.01420	-.03430	-.00530
1.952	170.900	.02250	-.21910	-1.26510	.02270	-.04100	-.00160
1.952	173.000	-.07210	-.20580	-1.29840	.00060	-.05240	-.00820
1.952	175.000	-.0 000	-.20090	-1.30990	.00750	-.05290	-.00340
1.952	177.000	-.06350	-.19140	-1.33630	.01690	-.03930	-.00690
1.952	179.020	-.09430	-.20990	-1.36230	.01680	-.04500	-.00610
1.952	181.020	-.10330	-.20990	-1.37960	.00780	-.06240	.00550
1.952	183.020	-.13230	-.19730	-1.39580	-.00190	-.05440	-.00070
1.952	184.920	-.15570	-.19330	-1.40310	-.00260	-.05740	-.01060
1.952	175.000	-.04320	-.20730	-1.31250	.01040	-.04200	-.01220
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 114/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYMH	CBL
2.740	165.100	.07070	-.17800	-1.32220	-.04170	-.01180	-.01900
2.740	167.000	.03160	-.16940	-1.37250	-.04270	-.03750	-.01290
2.740	169.000	.01360	-.16520	-1.41120	-.03350	-.01600	-.02560
2.740	171.000	-.06380	-.26430	-1.43510	-.03920	-.03810	-.01550
2.740	173.000	-.02250	-.27230	-1.46010	-.03720	-.02600	-.01790
2.740	175.000	-.10550	-.26610	-1.47660	-.03780	-.02820	-.01960
2.740	177.000	-.11570	-.26100	-1.49650	-.02310	-.03620	-.02670
2.740	179.000	-.09580	-.14010	-1.51120	-.03950	-.03690	-.02300
2.740	181.000	-.11380	-.15200	-1.52380	-.03370	-.02570	-.02060
2.740	183.000	-.13450	-.18790	-1.52930	-.04130	-.01820	-.02570
2.740	184.900	-.14460	-.18490	-1.52920	-.04400	-.01390	-.02710
2.740	175.000	-.08790	-.21680	-1.47980	-.04270	-.03400	-.02380
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 811 (SA30F)

PAGE 60

MSFC THT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(RIJ030) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 90.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
SREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RLN NO. 113/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLM	CA	CYM	CYM	CBL
3.480	165.106	.03180	-.23360	-1.37710	-.03230	.00610	-.01590
3.480	167.000	-.00120	-.26210	-1.41070	-.03290	-.00850	-.01630
3.480	169.000	-.01440	-.19940	-1.44650	-.03350	-.00210	-.01390
3.480	171.000	-.08720	-.32090	-1.47290	-.03690	-.01760	-.01710
3.480	173.000	-.11650	-.33530	-1.49070	-.03710	-.01870	-.01820
3.480	175.000	-.12570	-.32240	-1.50770	-.03750	-.01440	-.01990
3.480	177.000	-.14210	-.31310	-1.51750	-.03770	-.01620	-.01460
3.480	179.000	-.12440	-.21100	-1.53040	-.03120	-.00650	-.02010
3.480	181.000	-.13590	-.21340	-1.54370	-.02690	-.00790	-.01700
3.480	183.000	-.14950	-.24140	-1.54300	-.03580	-.02150	-.00470
3.480	184.900	-.16870	-.24350	-1.54400	-.04100	-.01430	-.01950
3.480	175.000	-.11250	-.25760	-1.51320	-.03070	.00720	-.02180
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 26 AUG 78

TABULATED SOURCE DATA, MFC THT 611 (84307)

PAGE 81

MFC THT 611 (84307) 608 - HEAT SHIELD ON NOZZLE

(R1J031) (08 AUG 78)

REFERENCE DATA

REF = 115.0000 80.00 FT. 3000 = 114.1800 12. 10
 LREF = 145.0400 IN. 3000 = .0000 IN. 10
 REF = 145.0400 IN. 3000 = .0000 IN. 20
 SCALE = .0000

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

REF NO. 42/ 0 RW/L = 7.57 GRADIENT INTERVAL = -8.00/ 5.00

MACI	ALPHA	CNM	CLMH	CA	CYM	CYNH	CSL
1.061	66.100	.18920	-.12150	.10300	-.00040	-.01010	-.00150
1.061	62.000	.19190	-.14270	.10130	.01140	.00500	-.00670
1.061	64.000	.22370	-.14440	.10190	.02190	.00290	-.00900
1.061	66.000	.23720	-.18000	.10460	.02780	.00290	-.00420
1.061	68.000	.26580	-.20920	.11130	.01890	-.00330	-.00610
1.061	70.000	.28080	-.23420	.11910	.02380	.00830	-.00390
1.061	72.000	.32630	-.22770	.12910	.02280	-.00380	-.00870
1.061	74.000	.37680	-.17290	.15060	-.00190	-.01730	-.00570
1.061	76.000	.41600	-.17230	.16660	-.00270	-.00930	-.00580
1.061	78.000	.43080	-.21290	.24360	.00200	-.01570	-.00590
1.061	79.900	.43320	-.20500	.30520	.00900	-.02000	-.00700
1.061	70.000	.30580	-.19750	.11850	.02110	-.00420	-.00580
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

REF NO. 43/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACI	ALPHA	CNM	CLMH	CA	CYM	CYNH	CSL
2.740	66.100	.18470	-.01230	.12240	-.01380	-.02240	-.01110
2.740	62.000	.19340	-.08140	.12110	-.00580	-.01640	-.01050
2.740	64.000	.22640	-.09750	.12500	.01900	.00130	-.02290
2.740	66.000	.20130	-.24510	.14200	.02710	-.00270	-.00440
2.740	68.000	.24270	-.19540	.15070	.02750	-.00460	-.01000
2.740	70.000	.26730	-.19120	.16790	.00570	-.04150	-.01220
2.740	72.000	.29210	-.21320	.18660	-.00820	-.05390	-.00410
2.740	74.000	.33350	-.11520	.20250	-.01500	-.03990	-.00890
2.740	76.000	.37500	-.12220	.23520	-.02400	-.04660	.00550
2.740	78.000	.39100	-.13420	.27030	-.02410	-.02520	-.02130
2.740	79.900	.41070	-.14970	.31390	-.02830	-.05510	-.00410
2.740	70.000	.28080	-.18090	.14830	.00330	-.05200	-.01460
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
 OF POOR QUALITY

REFERENCE DATA

SREF = 115.6900 SQ.FT. XAPP = 114.1850 IN. XM

LREF = 145.6400 IN. YAPP = .0000 IN. YM

BREF = 145.6400 IN. ZAPP = .0000 IN. ZM

SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO.		44/ 0	RM/L =	7.12	GRADIENT INTERVAL = -5.00/ 5.00			
MACH	ALPHA	CNM	CLPM	CA	CYM	CYMH	CCL	
3.480	60.060	.15590	-.04460	.12490	-.00370	-.00120	-.00710	
3.480	61.970	.17440	-.07340	.12180	-.00790	-.04990	-.00500	
3.480	64.000	.20670	-.04530	.12900	.01760	.00110	-.00730	
3.480	66.000	.19230	-.16170	.14530	.02710	-.00800	-.00520	
3.480	68.000	.21700	-.16220	.15970	.02520	-.00830	-.01000	
3.480	70.000	.21690	-.21520	.17870	-.00160	-.03740	-.00350	
3.480	72.000	.25800	-.18160	.19350	-.01020	-.04650	-.00250	
3.480	74.000	.31380	-.09310	.20930	-.01430	-.01510	-.01740	
3.480	76.000	.33880	-.07230	.23670	-.02510	-.03740	-.00060	
3.480	78.000	.32930	-.15490	.26610	-.02710	-.03280	-.00500	
3.480	79.900	.37120	-.12580	.29330	-.02650	-.02520	-.00680	
3.480	70.000	.25430	-.09700	.17570	-.00180	-.02540	-.01240	
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TMT 611 (SA30F)

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NSFC TMT 611 (SA30F) 988 - HEAT SHIELD ON NOZZLE

(R1J032) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 50.171. 3000 = 114.1950 IN. 1X
LREF = 145.6400 IN. 3000 = .3000 IN. 1X
BREF = 145.6400 IN. 3000 = .0000 IN. 2X
SCALE = .0035

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 29/ 0 RN/L = 7.5 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNH	CBL
1.959	80.000	.44070	-.18450	.20278	.00640	-.01930	.00200
1.959	81.900	.45950	-.18820	.27310	.00810	-.02070	.00020
1.959	83.900	.46870	-.18900	.34680	.00260	-.01930	.00240
1.959	85.920	.48380	-.19710	.42350	-.00940	-.01330	.00220
1.959	87.900	.48940	-.17470	.44820	-.02830	-.00930	.00110
1.959	89.900	.49520	-.18580	.53130	-.02820	-.01380	.00260
1.959	91.900	.50760	-.19180	.57450	-.00120	-.03180	.00030
1.959	93.920	.50690	-.18220	.59450	-.00280	-.02070	-.01530
1.959	95.900	.51960	-.15610	.57050	-.00510	-.01430	.00120
1.959	97.900	.52230	-.15820	.55440	-.02470	-.01510	.00250
1.959	99.800	.52440	-.15490	.55850	-.03870	-.00990	.00400
1.959	99.900	.49300	-.19370	.52440	-.02540	-.01390	.00110
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 70/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNH	CBL
2.740	80.000	.35630	-.16950	.27430	-.04600	-.10700	-.00990
2.740	81.900	.40490	-.20610	.32260	-.02550	-.03080	-.00390
2.740	83.900	.42690	-.24450	.37640	-.03210	-.03970	.00560
2.740	85.900	.42560	-.23300	.43090	-.03200	-.02490	-.00120
2.740	87.900	.45660	-.14800	.47370	-.02180	-.03770	.00290
2.740	89.900	.45810	-.32330	.51810	-.01160	-.02900	.00000
2.740	91.900	.49540	-.26610	.54190	-.00400	-.01470	-.00610
2.740	93.900	.53080	-.15820	.54790	-.01620	-.03350	-.00110
2.740	95.900	.52890	-.14840	.55230	-.02610	-.03300	-.00300
2.740	97.900	.50540	-.19240	.56290	-.04590	-.03560	-.00890
2.740	99.800	.50770	-.14860	.55690	-.03120	-.01770	-.00270
2.740	99.900	.49510	-.20780	.51840	-.00920	-.02410	-.00500
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 68/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLNN	CA	CYM	CYNN	CEL
3.480	80.000	.35080	-.15630	.27140	-.02440	-.02430	-.00390
3.480	81.900	.35500	-.19240	.30570	-.02620	.00160	-.01310
3.480	83.800	.35290	-.19080	.34820	-.02340	-.02240	-.00260
3.480	85.900	.35810	-.27850	.39070	-.01820	-.02520	-.00430
3.480	87.900	.43570	-.27990	.44470	-.01750	-.01500	-.00530
3.480	89.900	.47950	-.29140	.47070	-.01230	-.02250	-.01010
3.480	91.900	.50190	-.29570	.48580	-.00940	-.02860	-.00130
3.480	93.900	.52160	-.19970	.49470	-.01420	-.01960	-.00470
3.480	95.900	.52050	-.15540	.52330	-.02350	-.02870	-.00040
3.480	97.900	.50930	-.17200	.55370	-.03520	-.03380	-.01090
3.480	99.800	.49590	-.15600	.57110	-.03980	-.02790	.00230
3.480	89.900	.50150	-.21690	.47190	-.01010	-.02400	-.01090
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, HEAT THT 811 (9A30F)

PAGE 85

HEAT THT 811 (9A30F) SWS - HEAT SHIELD ON NOZZLE

(R1J033) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1850 IN. XM
 LREF = 145.0400 IN. YREF = .0000 IN. YN
 BREF = 143.0400 IN. ZREF = .0000 IN. ZM
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OINBAL = .000

RUN NO. 28/ 0 RN/L = 7.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CA	CYM	CYMM	CSL
1.962	100.000	.94580	-.14718	.56100	-.03740	-.01070	.00520
1.962	101.920	.94750	-.15400	.57710	-.02450	-.01270	.00370
1.962	103.800	.94780	-.18000	.48880	-.01180	-.01030	.00280
1.962	105.920	.94080	-.16630	.44170	-.01460	-.01290	.00190
1.962	107.920	.95570	-.17970	.39430	-.01140	-.01740	.00330
1.962	109.900	.97890	-.12310	.24500	.00150	-.01670	.00180
1.962	111.900	.95690	-.18930	.15290	-.00130	-.02470	-.00350
1.962	113.900	.96690	-.19860	.04390	-.00860	-.00680	-.00550
1.962	115.900	.96490	-.20770	-.06230	-.00920	-.00510	-.00070
1.962	117.900	.96230	-.22460	-.15900	-.01050	-.00710	-.00120
1.962	119.800	.96290	-.23000	-.26410	-.01620	-.00290	-.00510
1.962	109.900	.95180	-.20820	.24960	-.00140	-.02100	-.00280
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 71/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CA	CYM	CYMM	CSL
2.740	100.000	.51780	-.13790	.57080	-.03370	-.03520	-.00480
2.740	101.900	.50700	-.15830	.53220	-.01900	-.03260	.00010
2.740	103.800	.51750	-.12500	.46710	-.01860	-.04590	.00040
2.740	105.920	.48580	-.23920	.39640	-.01650	-.04910	.00190
2.740	107.900	.48500	-.24910	.37900	-.01370	-.04430	.00550
2.740	109.900	.49800	-.26530	.21120	-.01360	-.03000	-.00220
2.740	111.900	.50610	-.28500	.12230	-.02070	-.04520	-.00500
2.740	113.900	.54310	-.20240	.03000	-.02550	-.06820	-.00190
2.740	115.900	.55090	-.18480	-.06950	-.02040	-.03550	-.00460
2.740	117.900	.53210	-.25110	-.15820	-.01800	-.02780	-.01120
2.740	119.800	.53700	-.26440	-.25150	-.02270	-.04550	-.00720
2.740	109.900	.51230	-.22670	.21200	-.02090	-.05900	.00510
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 011 (SA30F)

PAGE 86

MSFC THT 011 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(R1J033) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 50.FT. 30PP = 114.1050 IN. XN
LREF = 145.0400 IN. 10PP = .0000 IN. YN
BREF = 145.0400 IN. 20PP = .0000 IN. ZN
SCALE = .0005

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 78/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CTH	CYHM	CSL
3.480	100.000	.49170	-.15660	.56660	-.03330	-.02230	.03220
3.480	101.900	.48090	-.14890	.56240	-.02880	-.03170	-.00310
3.480	103.800	.46390	-.13990	.51770	-.01940	-.03290	-.00830
3.480	105.900	.46000	-.23070	.48460	-.01290	-.04180	-.00260
3.480	107.900	.46680	-.22710	.39170	-.01270	-.04550	.00360
3.480	109.900	.47480	-.26210	.30060	-.01470	-.02410	-.00680
3.480	111.900	.47860	-.26140	.21630	-.01450	-.02240	-.00420
3.480	113.900	.51690	-.17920	.12920	-.01440	-.02550	-.01130
3.480	115.900	.52670	-.17310	.03380	-.01410	-.01560	-.00920
3.480	117.900	.52610	-.21140	-.06170	-.02760	-.05740	-.00440
3.480	119.800	.53750	-.20450	-.15290	-.01380	-.02830	-.01130
3.480	109.900	.49590	-.18970	.28930	-.01720	-.03430	-.01380
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MBFC TNT 611 (S-30F)

PAGE 67

MBFC TNT 611 (S-30F) 610 - HEAT SHIELD ON NOZZLE

(R1J034) (08 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1850 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
SREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 15/ 8 RM/L = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CSL
1.953	139.820	.72200	-.32040	-.65828	-.01880	-.01700	-.00580
1.953	131.900	.71470	-.35880	-.67720	-.01570	-.01970	-.00270
1.953	133.920	.70780	-.34600	-.68800	-.01890	-.01830	-.00420
1.953	135.900	.68810	-.35920	-.67350	-.02680	-.01940	-.00580
1.953	137.900	.65030	-.35870	-.70940	-.02270	-.02110	-.00500
1.953	139.900	.63110	-.34850	-.77330	-.01430	-.02350	-.01340
1.953	141.900	.59180	-.34770	-.83350	-.02410	-.03590	-.00740
1.953	143.920	.56410	-.34890	-.92850	-.02620	-.03090	-.00850
1.953	145.920	.52870	-.34250	-.1.02130	-.01350	-.04450	-.01310
1.953	147.920	.48290	-.30890	-.1.40230	-.01900	-.04350	-.01070
1.953	149.820	.46390	-.28830	-.1.38030	-.02430	-.04710	-.01510
1.953	139.900	.62210	-.36440	-.77340	-.02260	-.04490	-.00860
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 98/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CSL
2.740	130.000	.69530	-.31490	-.58950	-.01880	-.01180	-.00380
2.740	131.900	.71320	-.38200	-.64820	-.02310	-.00260	-.01280
2.740	133.900	.73450	-.34610	-.64130	-.02050	-.02060	-.00720
2.740	135.900	.71150	-.43120	-.63980	-.02270	-.02490	.00090
2.740	137.900	.69710	-.45360	-.68230	-.02060	-.01560	-.01340
2.740	139.900	.66570	-.47230	-.75450	-.02110	-.03040	-.00750
2.740	141.900	.64270	-.44600	-.83410	-.01930	-.01910	-.01440
2.740	143.900	.63030	-.36930	-.92500	-.01270	-.01480	-.01790
2.740	145.900	.59970	-.34230	-.1.01440	-.01340	-.03390	-.00530
2.740	147.900	.53470	-.42600	-.1.08680	-.01420	-.02870	-.01560
2.740	149.800	.50230	-.38420	-.1.15002	-.04500	-.13300	-.02270
2.740	139.900	.66140	-.42780	-.77060	-.02400	-.03950	-.01240
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

REFERENCE DATA

SRF - 115.6500 SQ.FT. XPRP - 114.1850 IN. XM

LREF - 145.6400 IN. YPRP - .0000 IN. YM

BREF - 145.6400 IN. ZPRP - .0000 IN. ZM

SCALE - .0055

PARAMETRIC DATA

PMI - 180.000 GIMBAL - .000

RUN NO.		97/ 0	RM/L	7.12	GRADIENT INTERVAL = -5.00/ 5.00	
MACH	ALPHA	CM	CLM	CA	CYM	CEM
3.480	130.000	.58490	-.23000	-.58830	-.02410	.00270
3.480	131.900	.58760	-.28770	-.71330	-.02780	-.00330
3.480	133.900	.73060	-.36240	-.70830	-.02920	-.00790
3.480	135.900	.70550	-.41210	-.65300	-.02950	-.00990
3.480	137.900	.69800	-.42050	-.60300	-.02270	-.00950
3.480	139.900	.66510	-.44570	-.7610	-.01870	-.01050
3.480	141.900	.64090	-.43550	-.79680	-.01680	-.00290
3.480	143.900	.64590	-.34300	-.89610	-.01960	-.00530
3.480	145.900	.61220	-.32790	-.98160	-.01370	-.01460
3.480	147.900	.56550	-.35810	-1.05390	-.01440	-.01370
3.480	149.800	.53230	-.32130	-1.11240	-.01300	-.04800
3.480	139.900	.66870	-.37800	-.69840	-.03050	-.05340
GRADIENT		.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

WETC TMT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

PURAMETRIC DATA

PHI = 180.000 01MSAL = .000

WREF = 115.0000 SQ.FT. 1000P = 114.1850 IN. XN

LREF = 145.6400 IN. Y000P = .0000 IN. YN

BREF = 145.6400 IN. Z000P = .0000 IN. ZN

SCALE = .0025

RUN NO. 14/ 0 RW/L = 7.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
1.937	150.120	.46680	-.23720	-1.38310	-.01000	-.03730	-.00730
1.937	152.020	.46600	-.22780	-1.33980	-.00750	-.03040	-.00900
1.937	154.020	.42390	-.21730	-1.28290	-.00390	-.02450	-.00720
1.937	156.000	.38840	-.18630	-1.25680	-.00780	-.02420	-.00860
1.937	158.000	.32640	-.16190	-1.29530	-.01220	-.04930	-.00400
1.937	160.000	.26560	-.16330	-1.34060	-.01650	-.04310	-.00700
1.937	162.020	.21550	-.15560	-1.34650	-.02490	-.05870	-.00610
1.937	164.020	.16720	-.16550	-1.35350	-.02900	-.05620	-.00960
1.937	166.020	.12600	-.14790	-1.34300	-.01790	-.06960	-.00590
1.937	168.020	.07560	-.15160	-1.36030	-.02200	-.05760	-.01030
1.937	169.920	.05970	-.13350	-1.37220	-.01500	-.06930	-.00830
1.937	160.000	.26110	-.18030	-1.31470	-.03340	-.03760	-.00950
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 99/ 0 RW/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
2.740	150.090	.46080	-.21260	-1.46600	-.01190	-.01290	-.01800
2.740	152.000	.41470	-.20990	-1.47890	-.02040	-.02970	-.02080
2.740	154.000	.38360	-.14860	-1.47690	-.01890	-.03420	-.01750
2.740	156.020	.30060	-.24860	-1.48450	-.02240	-.04310	-.01900
2.740	158.000	.25400	-.24190	-1.49080	-.02330	-.02690	-.01680
2.740	160.000	.20830	-.24150	-1.48840	-.02670	-.04070	-.01550
2.740	162.000	.17180	-.21410	-1.49540	-.02530	-.03640	-.02230
2.740	164.000	.15680	-.12230	-1.49370	-.02610	-.04490	-.02230
2.740	166.000	.12230	-.11610	-1.48430	-.02440	-.03930	-.02150
2.740	168.000	.08650	-.12090	-1.47040	-.02750	-.05830	-.01570
2.740	169.900	.03640	-.18510	-1.46130	-.02330	-.04840	-.02000
2.740	160.000	.22120	-.17080	-1.49690	-.03200	-.04790	-.02760
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

MSFC TMT 611 (SA30F) SPS - HEAT SHIELD ON NOZZLE

MSFC TMT 611 (SA30F) SPS - HEAT SHIELD ON NOZZLE

(R1J035) (08 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1820 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0075

PHI = 180.000 GIMBAL = .000

PARAMETRIC DATA

RUN NO. 100/ 0 RM/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CX	CLIM	CA	CYN	CYM	CSL
3.480	150.000	.44510	-.18790	-1.49290	-.00850	-.00690	-.02010
3.480	152.000	.40210	-.17220	-1.48380	-.01400	-.01500	-.01710
3.480	154.000	.35810	-.15390	-1.46990	-.02190	-.01910	-.01810
3.480	156.000	.28680	-.22520	-1.49380	-.01930	-.02030	-.01640
3.480	158.000	.24100	-.22370	-1.51190	-.01930	-.03580	-.01520
3.480	160.000	.20240	-.20960	-1.52240	-.01780	-.02560	-.01560
3.480	162.000	.15940	-.19580	-1.52850	-.02590	-.04820	-.02440
3.480	164.000	.16060	-.08790	-1.52480	-.02180	-.04330	-.01520
3.480	166.000	.11730	-.09920	-1.52260	-.02030	-.02690	-.01850
3.480	168.000	.06730	-.15060	-1.50630	-.01880	-.03680	-.01870
3.480	169.900	.05450	-.11520	-1.49150	-.01700	-.02760	-.02100
3.480	160.000	.20590	-.16560	-1.52630	-.02260	-.03170	-.01710
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SUB - HEAT SHIELD ON NOZZLE (RJ038) (08 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1950 IN. IN
LREF = 145.6400 IN. YREF = .C 10 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 4/ 0 RV/L = 7.11 GR/DIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYN	CBL
1.943	185.100	.17110	-.13120	-1.29730	-.02310	-.01870
1.943	187.000	.12040	-.12470	-1.32450	-.02730	-.03060
1.943	189.000	.08040	-.12500	-1.34380	-.01780	-.03840
1.943	170.980	.08420	-.11570	-1.35310	-.02710	-.04530
1.943	173.000	.05470	-.11740	-1.28470	-.00910	-.04400
1.943	175.000	.01810	-.12480	-1.21980	-.00670	-.03500
1.943	177.000	.00340	-.09940	-1.10820	-.00280	-.00830
1.943	179.020	-.02520	-.13700	-1.00640	-.00880	-.00740
1.943	181.020	-.02460	-.14700	-.99810	-.00150	-.03910
1.943	183.020	-.04480	-.13740	-1.06540	-.01090	-.02830
1.943	184.920	-.07070	-.13030	-1.15020	-.01590	-.04030
1.943	175.000	.01600	-.13690	-1.22190	-.00700	-.04970
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 125/ 0 RV/L = 5.80 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYN	CBL
2.740	185.100	.15030	-.10420	-1.50860	-.01870	-.01010
2.740	187.000	.10920	-.12630	-1.49700	-.01950	-.01530
2.740	169.000	.07990	-.09970	-1.47990	-.01780	-.05640
2.740	171.000	.02340	-.21510	-1.46930	-.01320	-.01050
2.740	173.000	.01930	-.17830	-1.43960	-.01610	-.01100
2.740	175.000	-.02520	-.27740	-1.34920	-.01410	-.00990
2.740	177.000	.02900	-.22240	-1.21050	-.01190	-.01330
2.740	179.000	.00410	-.05330	-1.15070	-.00720	-.00550
2.740	181.000	-.00510	-.14380	-1.15550	-.00200	-.01120
2.740	183.000	-.03970	-.17020	-1.23640	-.00300	-.02350
2.740	184.900	-.05640	-.16150	-1.32640	.00820	-.02840
2.740	175.000	.00740	-.15270	-1.32560	-.01150	-.00750
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. NSFC TNT 611 (SA30F)

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NSFC TNT 611 (SA30F) S98 - HEAT SHIELD ON NOZZLE

(RIJ036) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 90.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 125/ 0 RAVL = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CA	CYM	CYNH	CBL
3.480	165.100	.13670	-.11730	-1.53930	-.01510	-.04050	-.00570
3.480	167.000	.09460	-.13710	-1.52250	-.01350	-.03810	-.00430
3.480	169.000	.06750	-.13270	-1.51320	-.01650	-.02980	-.01640
3.480	171.000	.02630	-.18190	-1.50020	-.01470	-.03880	-.01000
3.480	173.000	.01100	-.18480	-1.46590	-.01010	-.03810	.00560
3.480	175.000	-.02270	-.23320	-1.38120	-.00620	-.02970	-.00660
3.480	177.000	-.04420	-.25600	-1.27410	-.00880	-.02970	-.00970
3.480	179.000	-.00380	-.10590	-1.06680	-.00430	-.02810	-.00700
3.480	181.000	-.00310	-.08370	-1.21920	-.00240	-.04270	-.01390
3.480	183.000	-.03680	-.16660	-1.29180	-.00260	-.05430	-.01290
3.480	184.900	-.04940	-.17320	-1.37110	.01080	-.01360	-.01520
3.480	175.000	.00730	-.13160	-1.36950	-.00620	-.03200	-.00800
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TNT 611 (SA30F)

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MSFC TNT 611 (SA30F) SNO - HEAT SHIELD ON NOZZLE (R1J037) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1850 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0053

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 41/ 0 RN/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLPM	CA	CYM	CYMM	CEL
1.961	60.080	.16980	-.11300	.11600	.01790	.00500	-.00800
1.961	62.000	.19160	-.14080	.12820	.02130	.00260	-.00690
1.961	64.000	.22480	-.12620	.19460	.01340	.00130	-.00430
1.961	66.020	.24150	-.17730	.18380	-.00030	-.02040	-.00750
1.961	68.000	.27400	-.17510	.21470	.00010	-.02060	-.00870
1.961	70.000	.30110	-.18770	.25060	.00500	-.02660	-.00560
1.961	72.000	.33060	-.16390	.28830	-.00010	-.02310	-.00320
1.961	74.020	.37770	-.16300	.33270	-.00350	-.02740	-.00410
1.961	76.000	.41310	-.16280	.39120	-.00860	-.01500	-.00710
1.961	78.000	.43230	-.17430	.46010	.00440	-.03470	-.00930
1.961	79.900	.46300	-.16620	.53320	.02350	-.01880	.00010
1.961	70.000	.31140	-.17840	.24560	.00360	-.02190	-.01220
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 46/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLPM	CA	CYM	CYMM	CEL
2.740	60.080	.14960	-.13100	.14010	-.30130	.00030	-.00230
2.740	61.970	.19400	-.10250	.15160	.01370	-.00280	-.01150
2.740	64.000	.22560	-.05870	.18050	-.00050	-.04160	-.00320
2.740	66.000	.22460	-.15060	.21020	-.01230	-.07340	-.00250
2.740	68.000	.24840	-.15530	.24690	.00210	-.05430	-.00730
2.740	70.000	.26950	-.16310	.28400	-.00860	-.04350	.00950
2.740	72.000	.29260	-.17520	.32230	-.00580	-.04170	.00180
2.740	74.000	.34860	-.10490	.35930	-.01500	-.02640	-.00590
2.740	76.000	.37880	-.09660	.40760	-.02420	-.03070	-.00160
2.740	78.000	.39160	-.15100	.46610	-.01520	-.02500	.00070
2.740	79.900	.41850	-.13480	.52630	-.02820	-.02650	-.00450
2.740	70.000	.26650	-.14140	.28590	-.00860	-.03090	-.00440
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 611 (SA30F)

PAGE 74

(R1J037) (06 AUG 75)

MSFC THT 611 (SA30F) SWS - HEAT SHIELD ON NOZZLE

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1820 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 45/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNM	CBL
3.480	60.100	.1561	-.04150	.13580	-.01060	-.03180	-.00260
3.480	61.970	.1964	.00140	.14230	.00110	-.02400	-.00670
3.480	64.000	.2035	-.06630	.16810	.01990	-.00380	-.00580
3.480	66.020	.19400	-.06680	.20990	.01520	-.00150	-.00680
3.480	68.000	.20890	-.15540	.24050	-.00210	-.03630	.00050
3.480	70.000	.22890	-.16800	.27620	-.01070	-.04940	.00220
3.480	72.000	.25220	-.17710	.30710	-.01030	-.02220	-.01020
3.480	74.000	.30990	-.07760	.34400	-.00970	.00930	-.00890
3.480	76.000	.33790	-.07570	.38590	-.02290	-.01520	-.01000
3.480	78.000	.34600	-.12640	.43380	-.03160	-.03780	-.00700
3.480	79.950	.37040	-.13140	.47470	-.04030	-.05410	-.00810
3.480	70.000	.24830	-.12370	.27430	-.01080	-.02870	-.01200
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA
SREF = 115.0000 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055
PARAMETRIC DATA
PHI = 180.000 01MBAL = 5.000

RUN NO. 30/ 0 RN/L = 7.59 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
1.955	79.900	.44480	-.18820	.41820	-.01480	-.02810	.00130
1.955	81.900	.46570	-.18220	.49210	-.01290	-.02050	.00140
1.955	83.900	.48760	-.16730	.55510	-.01260	-.02210	.00510
1.955	85.920	.48400	-.23590	.68830	-.02520	-.03210	.00490
1.955	87.920	.51790	-.19370	.77370	-.03050	-.03710	.00530
1.955	89.900	.52800	-.23420	.65480	-.03170	-.04030	.00280
1.955	91.900	.55100	-.20480	.93880	-.02720	-.05720	.00580
1.955	93.900	.58030	-.15960	.99320	-.03240	-.03770	.00650
1.955	95.900	.59860	-.11650	1.01740	-.03540	-.04760	.00650
1.955	97.900	.58840	-.14020	1.04090	-.03260	-.04560	.00710
1.955	99.800	.58330	-.13060	1.06040	-.03420	-.05700	.00370
1.955	89.900	.54150	-.19010	.86010	-.03210	-.04820	.00430
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 67/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMH	CBL
2.740	80.000	.41520	-.10960	.49260	-.02840	-.03910	-.00160
2.740	81.900	.43650	-.13960	.55360	-.03290	-.02930	-.01010
2.740	83.900	.45880	-.06170	.62040	-.03540	-.02530	-.01160
2.740	85.900	.45890	-.21670	.68430	-.03430	-.03360	-.00170
2.740	87.900	.49160	-.21740	.74760	-.03380	-.04300	-.00170
2.740	89.900	.51940	-.24750	.80860	-.01360	.04780	-.00200
2.740	91.900	.56290	-.22380	.87270	-.00570	-.05640	-.00460
2.740	93.900	.61600	-.15680	.92550	-.01480	-.05720	.00560
2.740	95.900	.60530	-.14450	.97480	-.02500	-.06850	.00100
2.740	97.900	.59100	-.15370	1.02710	-.01020	-.00460	.00150
2.740	99.800	.59820	-.11020	1.06240	-.03020	-.05280	-.00500
2.740	89.900	.54620	-.17400	.81190	-.01860	-.06340	-.00900
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(RIJ038) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0075

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 88/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CA	CYM	CYNH	CBL
3.480	80.000	.36190	-.11030	.45890	-.03370	-.03000	-.01030
3.480	81.000	.38260	-.19220	.51230	-.03530	-.03040	-.00740
3.480	83.900	.40850	-.16690	.56850	-.03250	-.028.0	-.00770
3.480	85.900	.40940	-.26720	.62560	-.03180	-.04020	-.00290
3.480	87.900	.45940	-.24750	.68400	-.01960	-.04430	.00190
3.480	89.900	.50570	-.25230	.74530	-.00520	-.05650	.00220
3.480	91.900	.56440	-.27490	.78560	-.00880	-.06880	-.00510
3.480	93.900	.61200	-.16710	.82860	-.01750	-.04360	-.00240
3.480	95.900	.59190	-.15960	.89520	-.03210	-.05620	-.02940
3.480	97.900	.58980	-.14220	1.00600	-.04760	-.06110	.00010
3.480	99.800	.58030	-.13150	1.04910	-.03440	-.06230	-.00780
3.480	99.900	.51770	-.23890	.74460	-.00750	-.05460	-.00420
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA
SREF = 115.0000 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055
PARAMETRIC DATA
PHI = 180.000 GIMBAL = 5.000

RUN NO. 27/ 0 RN/L = 7.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNH	CBL
1.965	99.980	.59310	-.15600	1.06810	-.01980	-.05330	.01070
1.965	101.900	.60940	-.11820	1.11450	-.01410	-.05140	.00740
1.965	103.800	.61640	-.13810	1.06820	-.01220	-.04670	.02150
1.965	105.920	.61200	-.13070	1.08410	-.04520	-.04420	.01540
1.965	107.820	.61900	-.11860	1.10660	-.01260	-.04050	.00530
1.965	109.500	.61130	-.12760	1.00040	-.00120	-.05330	.00680
1.965	111.900	.60110	-.14230	.91800	-.00550	-.03920	.00610
1.965	113.900	.58690	-.14680	.81670	-.01260	-.03320	.00390
1.965	115.900	.56680	-.15970	.72680	-.01410	-.02910	.00230
1.965	117.800	.57530	-.17740	.64560	-.02130	-.03050	.00250
1.965	119.800	.57540	-.17330	.59520	-.02140	-.02770	.00310
1.965	109.900	.60410	-.15540	1.01700	-.00140	-.06230	.00750
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 74/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYNH	CBL
2.740	99.980	.60520	-.11640	1.07650	-.02010	-.05610	.00740
2.740	101.900	.58570	-.12980	1.10760	-.01070	-.05620	.00490
2.740	103.880	.60030	-.07200	1.09720	-.01340	-.07680	.00150
2.740	105.900	.57280	-.15030	1.11920	-.02540	-.05220	.00580
2.740	107.900	.56380	-.16880	1.06630	-.00820	-.06000	.01520
2.740	109.900	.55460	-.17670	.97540	-.00840	-.06420	.01110
2.740	111.900	.56110	-.15880	.88300	-.01330	-.04850	.00150
2.740	113.900	.58410	-.08480	.80170	-.01600	-.06380	-.00610
2.740	115.900	.56900	-.11610	.71870	-.01580	-.04220	.00170
2.740	117.900	.55450	-.14720	.61910	-.02090	-.05630	-.00320
2.740	119.800	.54680	-.15520	.55160	-.01850	-.03780	-.01030
2.740	109.900	.56620	-.15190	.95920	-.01350	-.05740	-.00370
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

HEPC TWT 811 (SA30F) SW - HEAT SHIELD ON NOZZLE (R1J039) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 90. FT. XREF = 114.1950 IN. IN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 73/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLNN	CA	CYM	CYMM	CBL
3.480	98.880	.57350	-.14650	1.03810	-.02030	-.04120	.01140
3.480	101.800	.56980	-.14080	1.08110	-.02740	-.07020	.00910
3.480	103.800	.56360	-.12600	1.08000	-.01860	-.06640	.00930
3.480	105.800	.54890	-.12610	1.07240	-.01440	-.08560	.00730
3.480	107.900	.55170	-.12110	1.08500	-.02800	-.05210	-.00010
3.480	109.800	.53590	-.17490	1.05030	-.00970	-.06740	.00730
3.480	111.900	.52680	-.17720	.96230	-.01210	-.06610	.00870
3.480	113.900	.56330	-.07710	.87700	-.01660	-.05930	.00570
3.480	115.900	.55820	-.09710	.79930	-.01650	-.05110	.00490
3.480	117.900	.54410	-.12670	.72200	-.01430	-.03070	-.00300
3.480	119.800	.54410	-.08910	.63580	-.01920	-.04680	-.00760
3.480	109.900	.54070	-.14940	1.04390	-.00990	-.07060	.00370
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

NSFC TWT 011 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(R1J040) (08 AUG 75)

REFERENCE DATA

SREF	=	115.6800	SU.FT.	X999	=	114.1950	IN.	YN
LEF	=	145.6400	IN.	Y999	=	.0000	IN.	YN
BREF	=	145.6400	IN.	Z999	=	.0000	IN.	ZN
SCALE	=	.0095						

PARAMETRIC DATA

PMI - 180.000 CMBAL - 5.000

RUN NO. 18/ 0 RM/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLM1	CA	CY1	CYM	CBL
1.962	130.020	62780	-24710	05660	-01410	-01800	-00370
1.962	131.920	63770	-27400	05340	-01080	-02830	00000
1.962	133.920	64980	-29050	013990	-01180	-02730	00040
1.962	135.900	65150	-31320	020970	-02090	-02630	-00700
1.962	137.900	63510	-32030	025700	-01190	-02180	-00690
1.962	139.900	61830	-30880	021100	-01370	-03920	-00320
1.962	141.920	58820	-31500	027030	-02800	-03510	00510
1.962	143.920	59570	-31130	033980	-03610	-04710	00170
1.962	145.920	52380	-30500	047710	-04710	-04370	00660
1.962	147.940	47880	-30910	057600	-01490	-06720	00390
1.962	148.900	42390	-26900	1026500	-03730	-06010	00760
1.962	139.900	60540	-33110	021830	-03720	-05360	00540
GRADIENT		00000	00000	00000	00000	00000	00000

RUN NO. 95/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

PARAMETER	ALPHA	CNN	CLMM	CA	CYM	CYMH	CSL
RMSE	130.000	.52070	-.14060	.04730	-.00640	-.00180	-.03420
RMSE	132.740	.50730	-.16030	-.08450	-.00850	-.01070	-.00140
RMSE	131.900	.50380	-.18180	-.22970	-.00300	-.00840	-.00920
RMSE	133.900	.50580	-.36070	-.28740	-.01590	-.01810	-.00950
RMSE	135.900	.64400	-.36520	-.28590	-.02680	-.02080	-.00570
RMSE	137.900	.66090	-.36800	-.29680	-.03230	-.04460	-.02850
RMSE	139.900	.65590	-.34280	-.36520	-.01730	-.02880	-.00550
RMSE	141.900	.65450	-.25810	-.47550	-.02020	-.03120	-.01240
RMSE	143.900	.66300	-.29500	-.58860	-.01530	-.02920	.01600
RMSE	145.900	.51900	-.29500	-.69890	-.01900	-.03790	-.00750
RMSE	147.900	.55960	-.37890	-.79210	-.01750	-.04080	-.01010
RMSE	149.800	.53140	-.36870	-.30980	-.04550	-.05110	-.00260
RMSE	139.900	.65670	-.33310	-.00000	.00000	.00000	.00000
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 76

TABULATED SOURCE DATA, HSFC TMT 811 (SA30F)

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HSFC TMT 811 (SA30F) SSB - HEAT SHIELD ON NOZZLE

(RIJON0) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 88/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CA	CYM	CYMH	CSL
3.480	130.000	.53230	-.13480	.09880	-.00450	-.00330	.00740
3.480	131.900	.53690	-.19070	-.04250	-.01370	-.00780	-.00310
3.480	133.900	.52400	-.20540	-.17930	-.01150	-.00330	-.00450
3.480	135.900	.49570	-.31990	-.33770	-.00900	.00130	.00210
3.480	137.900	.68200	-.36240	-.39550	-.01680	-.01750	.00140
3.480	139.900	.64810	-.36900	-.33990	-.01940	-.00790	-.00290
3.480	141.900	.63970	-.37340	-.30840	-.02420	-.02590	-.00230
3.480	143.900	.65410	-.29000	-.40910	-.01990	-.03580	-.00580
3.480	145.900	.62180	-.28460	-.57200	-.01580	-.04120	.00300
3.480	147.900	.57480	-.30850	-.69880	-.00980	-.02030	-.00380
3.480	149.800	.52830	-.32940	-.81690	-.01530	-.04790	-.00870
3.480	139.900	.64890	-.33000	-.33730	-.02430	-.03190	-.00300
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

PAGE 81

MSFC TWT 811 (SA30F) SPS - HEAT SHIELD ON NOZZLE

(RIJON1) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 13/ 0 RV/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
1.944	150.120	.41850	-.29440	-1.37150	.13290	-.02920	-.00330
1.944	152.020	.40690	-.28250	-1.41150	.14050	-.02150	.00060
1.944	154.020	.39400	-.28100	-1.42330	.10410	-.01340	-.00440
1.944	156.000	.31850	-.27060	-1.43770	.09850	-.02100	-.00300
1.944	158.000	.28460	-.25870	-1.45580	.08850	-.02340	-.00480
1.944	160.000	.23380	-.26820	-1.45170	.07980	-.02070	-.00260
1.944	162.020	.18680	-.23760	-1.46740	.06030	-.02760	-.01090
1.944	164.020	.14090	-.21090	-1.49270	.05770	-.02700	-.00690
1.944	166.020	.10570	-.19760	-1.50450	.05070	-.03370	-.01010
1.944	168.020	.05530	-.21550	-1.52010	.03780	-.00540	-.01230
1.944	169.920	.02670	-.19140	-1.52930	.02820	-.02240	-.01540
1.944	160.000	.23060	-.26220	-1.43610	.06950	-.03020	-.00590
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 102/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
2.740	150.090	.54700	-.29800	-.72260	-.00730	-.00500	-.01330
2.740	152.000	.50190	-.29690	-.83530	-.00090	-.01760	-.00870
2.740	154.000	.43580	-.26310	-.99000	-.01230	-.03000	-.01580
2.740	156.000	.28350	-.30250	-1.27590	-.01240	-.01340	-.01060
2.740	158.000	.25110	-.24510	-1.28750	-.01830	-.02250	-.01140
2.740	160.000	.17780	-.29000	-1.30680	-.02190	-.03110	-.00430
2.740	162.000	.14110	-.28150	-1.33510	-.02020	-.02660	-.00720
2.740	164.000	.12640	-.17930	-1.36190	-.02370	-.02500	-.01540
2.740	166.000	.09040	-.15850	-1.38080	-.02460	-.03460	-.01480
2.740	168.000	.03560	-.13170	-1.39250	-.03090	-.05450	-.01520
2.740	169.900	.00230	-.18810	-1.40410	-.04350	-.06220	-.01510
2.740	160.000	.18510	-.24510	-1.31410	-.02710	-.02850	-.01650
DIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

INSULATED SOURCE DATA, HSFCT THT 811 (SAJOF)

PAGE 02

HSFCT THT 811 (SAJOF) SRS - HEAT SHIELD ON NOZZLE (RJUN1) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 101/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CEL
3.480	150.000	.55790	-.27820	-.74250	-.00590	-.01420	-.01230
3.480	152.000	.50040	-.32970	-.84310	-.00660	-.04160	-.00370
3.480	154.000	.34960	-.20230	-1.29200	-.01030	-.03120	-.00970
3.480	156.000	.28020	-.24720	-1.31560	-.01820	-.03620	-.00710
3.480	158.000	.23560	-.23590	-1.31770	-.02610	-.03460	-.01460
3.480	160.000	.16810	-.25900	-1.33800	-.03510	-.03790	-.01460
3.480	162.000	.11280	-.29510	-1.38230	-.02590	-.03890	-.01090
3.480	164.000	.09990	-.20360	-1.41820	-.02220	-.02480	-.01550
3.480	166.000	.06150	-.18370	-1.44190	-.02780	-.04290	-.01820
3.480	168.020	.01160	-.20760	-1.46010	-.02870	-.06120	-.01620
3.480	169.900	-.03680	-.25350	-1.46450	-.02940	-.04030	-.02250
3.480	160.000	.16380	-.23540	-1.35070	-.03690	-.07810	-.01440
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TMT 611 (SA30F)

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NSFC TMT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE (R1J042) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 3/ 0 RV/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
1.953	165.120	.16580	-.12340	-1.12590	-.01890	-.01000	-.00110
1.953	167.000	.11410	-.13080	-1.16270	-.01830	-.01170	.00000
1.953	169.020	.06960	-.12050	-1.21720	-.01640	-.02740	-.00400
1.953	171.000	.02860	-.12900	-1.23470	-.01400	-.04040	.00530
1.953	173.000	-.00460	-.11370	-1.26130	-.01960	-.03910	-.00660
1.953	175.000	-.05160	-.15550	-1.29410	-.01550	-.04390	.00080
1.953	177.000	-.07230	-.13920	-1.30610	-.00090	-.05540	.00330
1.953	179.020	-.08830	-.15040	-1.30320	-.01020	-.05360	-.00020
1.953	181.020	-.09760	-.14500	-1.19710	-.00130	-.04120	.00020
1.953	183.020	-.11980	-.14730	-1.10880	-.00620	-.02600	.00200
1.953	184.920	-.12900	-.12420	-1.06560	-.01260	-.03690	.00090
1.953	175.000	-.05980	-.16960	-1.29170	-.01120	-.03820	-.00730
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 123/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CA	CYM	CYMM	CBL
2.740	165.100	.12440	-.13370	-1.37620	-.01910	-.04240	-.00880
2.740	167.000	.07790	-.16060	-1.39150	-.01970	-.02880	-.00190
2.740	169.000	.03630	-.15820	-1.40120	-.02560	-.04450	-.00760
2.740	171.000	-.03280	-.25580	-1.40880	-.02640	-.04150	-.00890
2.740	173.000	-.07320	-.23790	-1.41810	-.02450	-.03560	-.00780
2.740	175.000	-.10840	-.27250	-1.43960	-.02240	-.04560	.01780
2.740	177.000	-.12920	-.26200	-1.43580	-.00880	-.04080	-.00900
2.740	179.000	-.10110	-.13850	-1.40980	-.00380	-.02390	-.00170
2.740	181.000	-.10790	-.12510	-1.31730	-.02360	-.05220	.00410
2.740	183.000	-.12410	-.18370	-1.22550	-.00870	-.02600	.00600
2.740	184.900	-.13110	-.16950	-1.22510	-.01670	-.02590	-.01610
2.740	175.000	-.09060	-.19650	-1.43840	-.02030	-.03550	-.00240
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(R1 J042) (08 AUG 75)

REFERENCE DATA

SRET	=	115.6900	54.57.	Y999	=	115.1950	IN. 1N.
LRST	=	145.6400	IN.	Y999	=	.0000	IN. 1N.
BRST	=	145.6400	IN.	Z999	=	.0000	IN. 2N.
SCALE	=						

PHI - 180.000 GIMBAL - 5.000

PARAMETRIC DATA

RUN NO. 124/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MOCK	ALPHA	CNN	CLMM	CA	CYM	CYMH	CBL
3.480	165.100	1.0260	-1.13900	-1.143390	-0.01550	-0.03630	-0.00350
3.480	167.000	0.6370	-1.14420	-1.143270	-0.01870	-0.03800	-0.00920
3.480	169.000	0.2920	-1.11950	-1.146270	-0.02180	-0.03690	-0.06550
3.480	171.000	-0.04730	-2.4620	-1.146730	-0.02230	-0.03570	-0.02100
3.480	173.000	-0.08190	-2.3920	-1.147220	-0.02150	-0.03930	-0.03100
3.480	175.000	-1.11480	-2.5610	-1.147820	-0.02400	-0.05310	-0.00990
3.480	177.000	-1.12620	-2.3810	-1.147560	-0.01730	-0.04370	-0.00160
3.480	179.000	-1.11270	-1.16180	-1.144230	-0.01510	-0.04130	-0.00320
3.480	181.000	-1.11730	-1.4270	-1.136560	-0.01530	-0.03420	-0.00370
3.480	183.000	-1.13370	-1.8070	-1.129410	-0.01530	-0.03860	-0.03360
3.480	184.900	-1.13040	-1.17580	-1.129650	-0.02020	-0.04810	-0.01190
3.480	175.000	-1.0200	-1.9120	-1.147990	-0.02640	-0.06060	-0.01110
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

PAGE 66

(RIJ101) (06 AUG 75)

MSFC TWT 611 (SA30F) SRS WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1050 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 48/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CPC1	CPC2	CPC3	CPC4	ALPHA
3.480	60.100	.03140	.03000	.02160	.00670	.09000
3.480	61.970	.03250	.03110	.02260	.00490	.11000
3.480	64.000	.04540	.04380	.03100	.01290	.12000
3.480	66.000	.06940	.06640	.03980	.02650	.12010
3.480	68.000	.09710	.09320	.04720	.05080	.13000
3.480	70.000	.12830	.12440	.05810	.08270	.14000
3.480	72.000	.15920	.15530	.07200	.11430	.15000
3.480	74.000	.19330	.19090	.09070	.14770	.15000
3.480	76.000	.23280	.22770	.11160	.18260	.17000
3.480	78.000	.27110	.26610	.13310	.22150	.17000
3.480	79.900	.31020	.30520	.15560	.25780	.18000
3.480	70.000	.21200	.20840	.11730	.17420	.14000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SWB WITHOUT HEAT SHIELD (RIJ102) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 90.FT. XREF = 114.1950 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
GREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 32/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	ALPHA
1.957	79.980	.22160	.22090	.02680	.19590	.30000
1.957	81.900	.27140	.27000	.05690	.24470	.31000
1.957	83.900	.32730	.32730	.08680	.30020	.32000
1.957	85.920	.39230	.39230	.12150	.36270	.33000
1.957	87.920	.45000	.45000	.15010	.42390	.34000
1.957	89.900	.50970	.51000	.18780	.47720	.35000
1.957	91.900	.56810	.56770	.22790	.52310	.36000
1.957	93.920	.61800	.61730	.26220	.56430	.37000
1.957	95.900	.66110	.66080	.29400	.60410	.38000
1.957	97.900	.70410	.70270	.31920	.63930	.39000
1.957	99.800	.74310	.74400	.33710	.66990	.40000
1.957	99.900	.78050	.78120	.35050	.69650	.41000
1.957	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 63/ 0 RN/L = 5.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	ALPHA
2.740	80.000	.31810	.31440	.14190	.27800	.17000
2.740	81.900	.35630	.35330	.16190	.31200	.18000
2.740	83.900	.40560	.40140	.18900	.35830	.19000
2.740	85.920	.46440	.46010	.21820	.41210	.19000
2.740	87.900	.52760	.52400	.25000	.47360	.20000
2.740	89.900	.59930	.59320	.28200	.52820	.21000
2.740	91.900	.66920	.66250	.31700	.57810	.21000
2.740	93.900	.72380	.71530	.35940	.61750	.22000
2.740	95.900	.76390	.75300	.39760	.65520	.22000
2.740	97.900	.79530	.78620	.43320	.69460	.21000
2.740	99.800	.84470	.83320	.43770	.72320	.20000
2.740	99.900	.83330	.82970	.34170	.55920	.21000
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SWS WITHOUT HEAT SHIELD

(R1J102) (06 AUG 75

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 64/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	80.000	.30890	.30330	.15950	.25930	.18000
3.480	81.900	.34690	.34010	.17840	.29110	.18000
3.480	83.900	.39730	.38880	.20390	.33410	.19000
3.480	85.900	.45930	.45080	.23490	.38940	.20000
3.480	87.900	.53030	.52130	.27320	.45590	.22000
3.480	89.900	.59580	.58670	.31720	.50890	.24000
3.480	91.900	.65160	.63970	.35160	.54560	.25000
3.480	93.900	.69590	.68240	.37660	.58190	.25000
3.480	95.900	.73730	.72150	.39280	.62280	.24000
3.480	97.900	.78140	.76620	.40050	.67150	.23000
3.480	99.800	.82710	.81410	.42470	.71380	.22000
3.480	89.900	.62900	.62230	.35780	.54330	.24000
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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(R1J103) (06 AUG 75)

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 25/ 0 RV/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.959	99.990	.76230	.76200	.35620	.69440	.35000
1.959	101.900	.80900	.80860	.37930	.74580	.34000
1.959	103.900	.85730	.85630	.41710	.78800	.34000
1.959	105.920	.92660	.92490	.45700	.83580	.33000
1.959	107.900	.97140	.97310	.48450	.90900	.32000
1.959	109.900	.96770	.96980	.47620	.90790	.32000
1.959	111.900	.96490	.96560	.47080	.88490	.32000
1.959	113.900	.98750	.98790	.48790	.89230	.32000
1.959	115.900	1.01390	1.01370	.50380	.91850	.31000
1.959	117.900	1.04030	1.04100	.53640	.93790	.30000
1.959	119.800	1.06130	1.06270	.56140	.97350	.29000
1.959	109.900	.97790	.98000	.48780	.91330	.32000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 78/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	100.000	.86980	.85330	.45860	.74930	.20000
2.740	101.900	.92040	.90640	.48450	.79350	.19000
2.740	103.900	.97950	.96920	.52400	.85330	.18000
2.740	105.900	1.05710	1.04860	.57980	.93030	.17000
2.740	107.900	1.03200	1.02660	.57560	.92700	.18000
2.740	109.900	1.03080	1.02480	.55920	.89360	.18000
2.740	111.900	1.03990	1.03570	.55130	.90520	.18000
2.740	113.900	1.05470	1.05040	.56040	.91940	.18000
2.740	115.900	1.07700	1.07390	.57860	.93800	.18000
2.740	117.900	1.10120	1.09760	.59990	.95920	.18000
2.740	119.800	1.12670	1.12310	.62540	.98350	.18000
2.740	109.900	1.0570	1.03080	.56590	.90030	.18000
GRADIENT		.00000	.00000	.00000	.00000	.00000

ORIGINAL PAGE IS
OF POOR QUALITY

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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(RIJ103) (06 AUG 75)

MSFC TWT 811 (SA30F) SRS WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 777 (RM/L = 7.12 GRADIENT INTERVAL = -3.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	100.000	.81810	.80480	.42030	.70410	.22000
3.480	101.900	.85890	.84820	.44040	.74810	.21000
3.480	103.900	.90250	.89400	.46480	.79700	.20000
3.480	105.900	.96960	.96110	.51290	.85290	.19000
3.480	107.900	1.04400	1.03500	.56930	.92160	.17000
3.480	109.900	1.10260	1.09640	.62060	.97580	.17000
3.480	111.900	1.08800	1.08290	.61720	.94360	.18000
3.480	113.900	1.08060	1.07780	.59690	.94420	.18000
3.480	115.900	1.10040	1.09700	.60870	.96680	.18000
3.480	117.900	1.12910	1.12580	.63470	.99160	.19000
3.480	119.800	1.16180	1.15960	.66230	1.02370	.19000
3.480	109.900	1.10480	1.09860	.62540	.97960	.17000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SPB WITHOUT HEAT SHIELD (RIJION) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 0/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.958	130.000	1.24880	1.25450	.73980	1.15780	.40000
1.958	131.900	1.26900	1.27710	.73800	1.17180	.38000
1.958	133.900	1.29930	1.27120	.73520	1.18580	.36000
1.958	135.900	1.24190	1.25530	.72710	1.15840	.33000
1.958	137.900	1.21590	1.22900	.71460	1.13760	.31000
1.958	139.900	1.19890	1.21120	.73990	1.13840	.28000
1.958	141.900	1.43410	1.44010	.98320	1.32770	.16000
1.958	143.900	1.51450	1.52390	.89740	1.29610	.09000
1.958	145.900	1.36130	1.36730	.75210	1.19470	.08000
1.958	147.900	1.26900	1.27570	.64040	1.10670	.04000
1.958	148.900	1.24310	1.25270	.59360	1.08820	.02000
1.958	139.900	1.19780	1.21130	.73470	1.13900	.26000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 0/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	130.000	1.44890	1.45370	.95440	1.36690	.22000
2.740	131.900	1.51330	1.51690	.97630	1.40760	.21000
2.740	133.900	1.50580	1.51670	.94550	1.38440	.21000
2.740	135.900	1.46630	1.49240	.89030	1.35950	.20000
2.740	137.900	1.43000	1.45980	.84930	1.34990	.19000
2.740	139.900	1.38750	1.40760	.82010	1.34010	.18000
2.740	141.900	1.33280	1.34070	.81570	1.33340	.17000
2.740	143.900	1.28180	1.27940	.83730	1.33280	.16000
2.740	145.900	1.74740	1.74920	1.03360	1.61260	.02000
2.740	147.900	1.84140	1.85110	.88730	1.46450	-.02000
2.740	149.800	1.55980	1.55860	.96980	1.22470	.09000
2.740	139.900	1.35830	1.37710	.79680	1.30850	.18000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SASOF)

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MSFC TWT 811 (SASOF) SPS WITHOUT HEAT SHIELD (RLJ104) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
 LREF = 145.8400 IN. YREF = .0000 IN. YN
 BREF = 145.8400 IN. ZREF = .0000 IN. ZN
 SCALE = .0055

PARAMETRIC DATA

PMI = 180.000 GIMBAL = .000

RUN NO. 0/0 RM/L = 7.12 ORADIENT INTERVAL = -5.00/ 5.00

NACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	130.000	1.36990	1.37220	.90120	1.35080	.16000
3.490	131.900	1.51770	1.52220	1.00220	1.45960	.21000
3.480	133.900	1.57850	1.58250	1.00110	1.47590	.19000
3.480	135.900	1.52340	1.54200	.90460	1.40890	.2710
3.480	137.900	1.46180	1.49450	.83990	1.38120	.21000
3.480	139.300	1.40940	1.44540	.80370	1.37550	.21000
3.480	141.900	1.35350	1.37890	.78240	1.36590	.21000
3.480	143.900	1.28080	1.29320	.76130	1.34460	.21000
3.480	145.900	1.20350	1.70920	.75790	1.31690	.20000
3.480	147.900	1.76510	1.77360	.84210	1.48660	-.01000
3.480	149.800	1.85670	1.86800	.78160	1.30620	-.07000
3.480	139.900	1.40540	1.43810	.79700	1.37440	.20000
3.480	139.920	1.41230	1.44870	.80360	1.37780	.20000
3.480	139.900	1.41500	1.45000	.80810	1.38230	.20000
	ORADIENT	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 115.8000 SQ.FT.

YREF = 145.8400 IN.

ZREF = 145.8400 IN.

SCALE = .0025

XREF = 114.1850 IN. XM

YREF = .0000 IN. YM

ZREF = .0000 IN. ZM

PARAMETRIC DATA

PHI = 180.000

GIMBAL = .000

RUN NO. 11/ 0

RM/L = 7.10

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.947	150.120	1.29480	1.30010	.86470	1.14470	.04000
1.947	152.000	1.21730	1.22300	.57970	1.03620	.02000
1.947	154.000	1.12690	1.13140	.47000	.85300	.03000
1.947	156.000	1.05780	1.06160	.38010	.73100	.02000
1.947	158.000	.97010	.96820	.34160	.60780	.06000
1.947	160.000	.84110	.83400	.28950	.49210	.10000
1.947	162.020	.74610	.73720	.21960	.40400	.07000
1.947	164.020	.63700	.63400	.16690	.35140	.06000
1.947	166.020	.48960	.48180	.12440	.26100	.06000
1.947	168.020	.35570	.35340	.10510	.20790	.05000
1.947	169.920	.24870	.24990	.10290	.16460	.04000
1.947	160.000	.84620	.83440	.29690	.50760	.10000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 106/ 0

RM/L = 5.18

GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.090	1.55460	1.55770	.94520	1.22080	.08000
2.740	152.000	1.32340	1.33190	.56890	1.10170	.02000
2.740	154.000	1.22020	1.22810	.47660	.97470	.00000
2.740	156.000	1.15150	1.15520	.44140	.78580	.00000
2.740	158.020	1.01600	1.01420	.42190	.63450	.03000
2.740	160.000	.91610	.91250	.39020	.53800	.03000
2.740	162.000	.80530	.79980	.33690	.45720	.03000
2.740	164.000	.69100	.68440	.27920	.40250	.02000
2.740	166.000	.55190	.54690	.23580	.34340	.02000
2.740	168.020	.42240	.42670	.21630	.30330	.02000
2.740	169.900	.33930	.34480	.21540	.26640	.02000
2.740	160.000	.85750	.84720	.32110	.46930	.03000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SP8 WITHOUT HEAT SHIELD

(R1J105) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
 LREF = 145.6400 IN. YPRP = .0000 IN. YN
 BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
 SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MSAL = .000

RUN NO. 105/ 1 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	150.090	1.85400	1.86070	.78600	1.30560	-.07000
3.480	152.000	1.45850	1.46410	.78670	1.02190	.04000
3.480	154.000	1.11670	1.12350	.47730	.93520	.02000
3.480	156.000	1.08230	1.09070	.42850	.82450	.00000
3.480	158.000	1.01070	1.01300	.41360	.65780	.03000
3.480	160.000	.88820	.88490	.39690	.53250	.02000
3.480	162.000	.78540	.77980	.36270	.46020	.02000
3.480	164.000	.68030	.67130	.31500	.40800	.02000
3.480	166.000	.55490	.54530	.27310	.35870	.02000
3.480	168.000	.43340	.43340	.25070	.20000	.01000
3.480	169.900	.35800	.35860	.24860	.29030	.01000
3.480	160.000	.83200	.82180	.34260	.46780	.02000
3.480	160.000	.88670	.88270	.39000	.52250	.02000
3.480	160.000	.88840	.88440	.39330	.52750	.02000
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. NSFC TMT 811 (SA30F)

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(R1J106) (06 AUG 75)

NSFC TMT 811 (SA30F) SFB WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1950 IN. XN
 LREF = 145.8400 IN. YREF = .0000 IN. YN
 BREF = 145.8400 IN. ZREF = .0000 IN. ZN
 SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 1/ 0 RW/L = 7.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.953	165.100	.55230	.54770	.15530	.32290	.09000
1.953	167.000	.41150	.41040	.10150	.24640	.05000
1.953	169.000	.30490	.30380	.09820	.18990	.05000
1.953	170.980	.21660	.21590	.10220	.14150	.04000
1.953	172.980	.15980	.15710	.09360	.10670	.05000
1.953	175.000	.12650	.12460	.08820	.09420	.04000
1.953	177.000	.09620	.09390	.07970	.07820	.02000
1.953	179.000	.08910	.08770	.07870	.07730	.02000
1.953	181.000	.10310	.10280	.08560	.08080	.01000
1.953	183.000	.13560	.13600	.10220	.08640	.00000
1.953	184.900	.17630	.17590	.12620	.09860	-.01000
1.953	175.000	.12880	.12720	.09570	.09800	.04000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 119/ 0 RW/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.100	.61750	.60110	.22330	.34360	.03000
2.740	167.000	.49240	.48450	.21050	.30890	.03000
2.740	169.000	.38310	.38240	.20570	.27860	.02000
2.740	171.000	.31380	.31200	.20810	.24520	.02000
2.740	173.000	.26700	.26580	.20200	.21780	.02000
2.740	175.000	.23120	.22730	.19230	.19600	.01000
2.740	177.000	.20690	.20450	.18930	.18870	.01000
2.740	179.020	.19470	.19350	.18500	.18500	.01000
2.740	181.000	.20350	.20230	.18830	.18470	.00000
2.740	183.020	.22510	.22690	.19720	.18620	.00000
2.740	184.900	.26340	.26340	.22030	.19900	.00000
2.740	175.000	.22720	.22480	.19750	.19260	.01000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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(R1108) (06 AUG 75)

MSFC TMT 811 (SA30F) SWS WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.6900 SQ.FT. XMRP = 114.1950 IN. XN
LREF = 145.6400 IN. YMRP = .0000 IN. YN
BREF = 145.6400 IN. ZMRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 JIMBAL = .000

RUN NO. 120/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	QAPPA
3.480	165.100	.61950	.60820	.26200	.37890	.02000
3.480	167.000	.50840	.50050	.24390	.33700	.02000
3.480	169.000	.40070	.39900	.23320	.30140	.02000
3.480	171.000	.33390	.33280	.23360	.27140	.02000
3.480	173.000	.29130	.29020	.23100	.24620	.02000
3.480	175.000	.25670	.25340	.22180	.22630	.02000
3.480	177.000	.23430	.23210	.21910	.21740	.01000
3.480	179.000	.22310	.22140	.21400	.21400	.01000
3.480	181.000	.22980	.22930	.21740	.21520	.01000
3.480	183.000	.25180	.25180	.22590	.21690	.01000
3.480	184.900	.28620	.28510	.24620	.22700	.00000
3.480	175.000	.25220	.25000	.22520	.21950	.02000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TWT 611 (SA30F)

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(RIJ107) (08 AUG 75)

NSFC TWT 611 (SA30F) SWB WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1000 IN. XN
 LREF = 145.6400 IN. YREF = .0000 IN. YN
 BREF = 145.6400 IN. ZREF = .0000 IN. ZN
 SCALE = .0075

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 40/ 0 RM/L = 7.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.985	60.100	-.14820	-.15280	-.17760	-.17900	.20000
1.985	62.000	-.12440	-.12970	-.16760	-.15980	.21000
1.985	64.000	-.08850	-.09420	-.14670	-.12680	.23000
1.985	66.020	-.04850	-.05520	-.12230	-.08790	.25000
1.985	68.020	-.00700	-.01520	-.09690	-.04750	.27000
1.985	70.000	.03300	.02800	-.07330	-.00380	.28000
1.985	72.000	.07970	.07580	-.04760	.04640	.30000
1.985	74.020	.12350	.12000	-.02480	.09550	.31000
1.985	76.000	.18860	.18470	.01260	.16430	.33000
1.985	78.000	.25100	.24710	.05490	.22980	.34000
1.985	79.900	.31020	.30430	.10050	.27900	.36000
1.985	70.000	.06250	.06440	-.03320	.03590	.28000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 47/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	60.080	-.00830	-.01100	-.01870	-.03390	.11000
2.740	61.970	-.00430	-.00830	-.01910	-.03450	.12000
2.740	64.000	.01370	.00890	-.01320	-.02010	.13000
2.740	66.000	.04290	.03680	-.00100	.00300	.14000
2.740	68.000	.07650	.06850	.01330	.03220	.15000
2.740	70.000	.11480	.10510	.03170	.07120	.16000
2.740	72.000	.15300	.14460	.05290	.11550	.16000
2.740	74.000	.19330	.18630	.07730	.16300	.17000
2.740	76.000	.23910	.23330	.10560	.20900	.18000
2.740	78.000	.28850	.28250	.13520	.24700	.19000
2.740	79.900	.34080	.33210	.16560	.28590	.20000
2.740	70.000	.20570	.19860	.10570	.17120	.16000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TMT 811 (SAJ0F)

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MSFC TMT 811 (SAJ0F) 988 WITHOUT HEAT SHIELD

(R1J107) (06 AUG 75)

REFERENCE DATA

SREF = 115.6800 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAI = 5.000

RUN NO. 48/ 0 RM/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	60.080	.00260	.00050	-.00560	-.02240	.10000
3.480	61.970	.01650	.01390	.00610	-.01410	.11000
3.480	64.000	.03890	.03330	.02090	.00370	.12000
3.480	66.020	.06590	.05780	.03480	.02560	.13000
3.480	68.000	.09470	.08440	.04740	.05250	.14000
3.480	70.000	.12600	.11560	.06050	.08420	.15000
3.480	72.000	.15660	.14670	.07500	.11780	.16000
3.480	74.000	.18940	.18060	.09360	.15500	.17000
3.480	76.000	.22530	.21810	.11610	.18950	.18000
3.480	78.000	.26660	.25980	.14100	.22340	.19000
3.480	79.900	.31060	.30090	.16560	.25750	.20000
3.480	70.000	.20820	.20040	.12260	.17380	.15000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SR8 WITHOUT HEAT SHIELD

(RIJ108) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAME TRIC DATA

PHI = 180 000 01MBAL = 5.000

RUN NO. 85/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	C-12	CPC3	CPC4	GAFFA
3.480	80.900	.31440	.30370	.17180	.26200	.20000
3.480	81.900	.35220	.34030	.19090	.29070	.21000
3.480	83.900	.40290	.38940	.21800	.32910	.23000
3.480	85.900	.47150	.45460	.25750	.37640	.24000
3.480	87.900	.55570	.53600	.31160	.44630	.27000
3.480	89.900	.62560	.60870	.36850	.52470	.29000
3.480	91.900	.67690	.66280	.41250	.56700	.30000
3.480	93.900	.72680	.71270	.44780	.60730	.30000
3.480	95.900	.78010	.76040	.47620	.65040	.30000
3.480	97.900	.82920	.80490	.50220	.69950	.29000
3.480	99.800	.87260	.84890	.52360	.75360	.28000
3.480	99.900	.65410	.64050	.41450	.55880	.29000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SRB WITHOUT HEAT SHIELD (RIJ109) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1920 IN. XM
 LREF = 145.8400 IN. YREF = .0000 IN. YN
 BREF = 145.8400 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMB/L = 5.000

RUN NO. 26/ 0 RV/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.959	99.980	.84690	.84300	.49550	.80090	.53000
1.959	101.900	.89150	.88870	.53100	.84660	.54000
1.959	103.900	.93150	.92830	.56970	.88820	.53000
1.959	105.920	.96870	.96450	.60860	.93590	.51000
1.959	107.900	1.07790	1.07510	.68170	1.03070	.49000
1.959	109.900	1.11130	1.10820	.72670	1.07010	.48000
1.959	111.900	1.10550	1.10200	.71730	1.06400	.48000
1.959	113.900	1.12540	1.12050	.72680	1.07070	.47000
1.959	115.900	1.15010	1.14520	.71060	1.06690	.45000
1.959	117.900	1.17660	1.17020	.76790	1.11980	.44000
1.959	119.800	1.20100	1.19610	.79240	1.14970	.42000
1.959	109.900	1.12140	1.12290	.73380	1.08550	.48000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 75/ 0 RV/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	100.000	.90870	.89520	.56350	.81070	.25000
2.740	101.900	.96720	.95630	.59210	.84860	.24000
2.740	103.900	1.01120	1.00630	.63640	.88970	.23000
2.740	105.900	1.06340	1.06160	.68620	.94190	.22000
2.740	107.900	1.12240	1.12170	.74210	1.00570	.21000
2.740	109.900	1.19340	1.19226	.80710	1.07560	.20000
2.740	111.900	1.19950	1.20070	.82530	1.08650	.19000
2.740	113.900	1.19650	1.19220	.81500	1.08530	.20000
2.740	115.900	1.20680	1.20620	.81440	1.10720	.19000
2.740	117.900	1.22740	1.22740	.82770	1.12420	.18000
2.740	119.800	1.25300	1.25420	.84840	1.14970	.18000
2.740	109.900	1.19340	1.19220	.81160	1.07780	.20000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TMT 811 (SA30F)

(R1J109) (06 AUG 75)

NSFC TMT 811 (SA30F) SRB WITHOUT HEAT SHIELD

PARAMETRIC DATA

PH1 = 180.000 GIMBAL = 5.000

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

RUN NO. 78/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CFC1	CPC2	CPC3	CPC4	GAMMA
3.480	99.980	.86410	.84330	.52750	.75310	.28000
3.480	101.900	.90260	.88510	.54810	.79830	.27000
3.480	103.900	.95500	.94320	.58640	.84510	.26000
3.480	105.900	1.01670	1.00960	.62850	.89910	.25000
3.480	107.900	1.07730	1.07280	.67920	.95430	.23000
3.480	109.900	1.13200	1.13200	.73020	1.01530	.22000
3.480	111.900	1.17570	1.20860	.77980	1.09870	.20000
3.480	113.900	1.26390	1.28560	.86090	1.15570	.20000
3.480	115.900	1.28810	1.26930	.88950	1.16800	.19000
3.480	117.900	1.28500	1.20730	.87220	1.17540	.18000
3.480	119.800	1.28480	1.20530	.89060	1.19280	.19000
3.480	109.900	1.14330	1.14550	.75660	1.03220	.22000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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(RIJ119) (06 AUG 75)

MSFC TMT 611 (SA30F) SWS WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1250 IN. XN
 LREF = 145.8400 IN. YREF = .0000 IN. YN
 SREF = 145.8400 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.073

RUN NO. 17/ 0 RW/L = 7.08 GRADIENT INTERVAL = -5.0C/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.956	130.020	1.36900	1.37350	1.01360	1.29330	.38000
1.956	131.820	1.41460	1.41940	1.06440	1.31140	.39000
1.956	133.000	1.44500	1.44880	1.10420	1.35480	.38000
1.956	134.580	1.49230	1.49760	1.15100	1.39150	.37000
1.956	137.900	1.48650	1.50140	1.11530	1.38740	.35000
1.956	138.900	1.48110	1.50130	1.01200	1.38180	.30000
1.956	141.820	1.45780	1.47150	1.06450	1.36500	.26000
1.956	143.820	1.43800	1.44810	1.10980	1.34750	.25000
1.956	145.820	1.55900	1.56240	1.34000	1.48350	.16000
1.956	147.920	1.62680	1.63170	1.36080	1.53100	.09000
1.956	148.900	1.69340	1.70020	1.28090	1.56160	.04000
1.956	139.900	1.49850	1.50950	1.10620	1.39290	.29000
GRADIENT		.00000	.00000	.00100	.00000	.00000

RUN NO. 94/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.0C/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	129.880	1.43030	1.43030	1.03420	1.33450	.14000
2.740	131.800	1.46010	1.46010	1.07840	1.33800	.13000
2.740	133.800	1.53230	1.53480	1.21420	1.30270	.21000
2.740	135.900	1.61160	1.69700	1.26030	1.57670	.18000
2.740	137.900	1.69790	1.70520	1.25050	1.54670	.19000
2.740	139.900	1.67520	1.69520	1.21410	1.52510	.17000
2.740	141.900	1.64050	1.66060	1.18670	1.49780	.16000
2.740	143.900	1.58320	1.59890	1.11940	1.46240	.15000
2.740	145.900	1.51150	1.51940	1.07760	1.43870	.14000
2.740	147.900	1.43580	1.43520	1.07740	1.41270	.14000
2.740	149.800	1.89210	1.89150	1.43080	1.72820	.00000
2.740	139.900	1.67120	1.65200	1.20810	1.52310	.17000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 29 AUG 75

TABULATED SOURCE DATA, MSFC TNT 611 (SA30F)

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MSFC TNT 611 (SA30F) SRB WITHOUT HEAT SHIELD

RIJ111111 (06 AUG 75)

REFERENCE DATA

SREF = 115.8600 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 G'INAL = 5.000

RUN NO. 93/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	130.000	1.47170	1.47170	1.10050	1.40470	.16000
3.480	131.900	1.53110	1.53230	1.16410	1.47080	.15000
3.480	133.900	1.58250	1.58530	1.22440	1.53400	.13000
3.480	135.900	1.70820	1.71270	1.33100	1.63320	.17000
3.480	137.900	1.81530	1.81930	1.38910	1.69920	.16000
3.480	139.900	1.83450	1.84240	1.32990	1.65590	.16000
3.480	141.900	1.76380	1.78800	1.22890	1.61670	.16000
3.480	143.420	1.64430	1.71150	1.14380	1.55690	.17000
3.480	145.900	1.59030	1.61520	1.06370	1.50240	.17000
3.480	147.900	1.49110	1.50410	1.01470	1.46520	.17000
3.480	149.800	1.39910	1.46200	1.00240	1.42790	.17000
3.480	139.900	1.82860	1.83540	1.31010	1.65730	.16000
GRADIENT		.00000	.00000	.00000	.00000	.00000

MS-C TWT 611 (SA30F) 908 WITHOUT HEAT SHIELD (RIJ111) (08 AUG 75)

REFERENCE DATA

SREF =	115.0000	SQ.FT.	X99P =	114.1950	IN.	XN
LREF =	145.6400	IN.	Y99P =	.0000	IN.	YN
BREF =	145.6400	IN.	Z99P =	.0000	IN.	ZN
SCALE =	.0025					

PARAMETRIC DATA

PHI - 180.000 C1MBAL - 5.000

RUN NO. 12/ 0 PM/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	QAMPA
1.946	150.120	1.69570	1.70220	1.27960	1.57120	-0.70000
1.946	152.020	1.62180	1.62750	1.09260	1.41620	-0.00000
1.946	154.020	1.50090	1.50760	0.93250	1.29960	-0.00000
1.946	156.000	1.43720	1.44500	0.80490	1.17130	-0.03000
1.946	158.000	1.38780	1.39570	0.69200	1.00710	-0.04000
1.946	160.000	1.25980	1.26380	0.64060	0.86530	-0.03000
1.946	162.020	1.17190	1.16480	0.50920	0.67080	-0.01000
1.946	164.020	1.11770	1.11920	0.36860	0.56010	-0.03000
1.946	166.020	0.99360	0.99930	0.30270	0.45970	-0.02000
1.946	168.020	0.86090	0.85500	0.23490	0.37980	-0.02000
1.946	169.920	0.69690	0.69680	0.16880	0.31060	-0.04000
1.946	180.000	0.22680	0.21180	0.63920	0.85300	-0.07000
GRADIENT		0.00000	0.00000	-0.00000	-0.00000	-0.00000

RUN NO. 103/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.050	1.90740	1.90920	1.49130	1.76950	-0.01000
2.740	152.000	2.00320	2.00580	1.33240	1.69960	-0.06000
2.740	154.000	1.87880	1.88140	1.38930	1.69000	0.00000
2.740	156.000	1.71430	1.71670	1.91670	1.18860	0.00000
2.740	158.000	1.53000	1.51180	0.69880	0.97010	0.00000
2.740	160.000	1.34400	1.32700	0.61320	0.82080	0.00000
2.740	162.000	1.20870	1.18800	0.54340	0.68970	0.00000
2.740	164.000	1.05680	1.08000	0.48150	0.57560	0.00000
2.740	166.000	1.00110	0.99530	0.41840	0.48330	-0.01000
2.740	168.000	0.89210	0.87090	0.35330	0.41040	-0.01000
2.740	169.900	0.76150	0.75910	0.28530	0.40490	-0.04000
2.740	160.000	1.33010	1.30760	0.53800	0.76270	0.00000
GRADIENT		0.00000	0.00000	0.00000	0.00000	0.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SRS WITHOUT HEAT SHIELD

(RIJ111) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 104/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	150.090	1.41100	1.41210	1.03000	1.44590	.17000
3.480	152.000	1.99740	1.99630	1.31130	1.75270	-.02000
3.480	154.000	1.99940	1.99550	1.07830	1.35920	-.01000
3.480	156.000	1.84720	1.84490	1.02040	1.23290	-.04000
3.480	158.020	1.54810	1.61120	.87430	1.03440	-.04000
3.480	160.000	1.41330	1.41500	.59450	.95380	-.03000
3.480	162.000	1.24190	1.24020	.48890	.78140	-.03000
3.480	164.000	1.11960	1.11110	.44550	.61010	-.02000
3.480	166.000	.99480	.97790	.42630	.50580	-.01000
3.480	168.000	.87940	.86330	.37700	.44180	-.02000
3.480	169.900	.74930	.73520	.32150	.38860	-.03000
3.480	160.000	1.38960	1.38510	.50840	.88220	-.03000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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(R1J112) (06 AUG 75)

MSFC TMT 811 (SA30F) SWS WITHOUT HEAT SHIELD

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PMI = 180.000 GIMBAL = 5.000

RUN NO. 2/ 0 RM/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.957	165.100	.96650	.94470	.38750	.49020	.07000
1.957	167.000	.92880	.92470	.26800	.42470	-.01000
1.957	169.000	.82930	.82400	.21410	.36750	-.03000
1.957	170.980	.63850	.63390	.15010	.27770	-.03000
1.957	172.980	.46290	.46210	.12040	.21490	-.02000
1.957	175.000	.33220	.33220	.10780	.16720	-.02000
1.957	177.000	.23010	.23010	.10120	.12870	-.03000
1.957	179.020	.15920	.15880	.08030	.09540	-.03000
1.957	181.020	.11640	.11490	.06650	.07100	-.05000
1.957	183.020	.03400	.08320	.06170	.06060	-.05000
1.957	184.920	.07580	.07430	.06070	.05840	-.07000
1.957	175.000	.30570	.30300	.10840	.15370	-.02000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 122/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.120	1.04450	1.03420	.44370	.51740	.00000
2.740	167.000	.94580	.93250	.38930	.44810	-.01000
2.740	169.000	.83110	.81290	.32130	.38820	-.02000
2.740	171.000	.68970	.68910	.26730	.37950	-.03000
2.740	173.000	.54710	.54710	.23510	.32730	-.03000
2.740	175.000	.41720	.41780	.21930	.27640	-.02000
2.740	177.000	.32290	.32350	.20990	.23970	-.03000
2.740	179.000	.26180	.26240	.19560	.20960	-.03000
2.740	181.000	.21870	.21690	.17980	.18110	-.03000
2.740	183.000	.19020	.18960	.17380	.17200	-.03000
2.740	184.900	.17860	.17740	.17070	.17010	-.04000
2.740	175.000	.32550	.32130	.19380	.22540	-.03000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC THT 811 (SA30F)

PAUSE 108

MSFC THT 811 (SA30F) SRS WITHOUT HEAT SHIELD

(RIJ112) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1850 IN. XN
 LREF = 145.6400 IN. YREF = .0000 IN. YN
 BREF = 145.6400 IN. ZREF = .0000 IN. ZN
 SCALE = .0095

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 121/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	165.100	.02310	1.01020	.43450	.52410	-.01000
3.480	167.000	.93800	.92670	.39840	.47570	-.02000
3.480	169.000	.81510	.79870	.35040	.41250	-.02000
3.480	171.000	.67980	.67860	.29690	.39160	-.05000
3.480	173.000	.54440	.54560	.26480	.34320	-.04000
3.480	175.000	.41980	.42100	.24900	.29860	-.04000
3.480	177.000	.33580	.33700	.23770	.26200	-.03000
3.480	179.000	.26280	.26280	.22480	.23380	-.03000
3.480	181.000	.24450	.24450	.21290	.21520	-.04000
3.480	183.000	.21900	.21900	.20830	.20490	-.03000
3.480	184.900	.20780	.20730	.20390	.20450	-.04000
3.480	175.000	.34030	.33810	.22700	.25350	-.03000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

MSFC TMT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT (RIJ113) (06 AUG 75)

REFERENCE DATA

SREF = 115.6800 SQ.FT. XPRP = 114.1950 IN. XM
 LREF = 145.6400 IN. YPRP = .0000 IN. YM
 BREF = 145.6400 IN. ZPRP = .0000 IN. ZM
 SCALE = .0025

PARAMETRIC DATA

PHI = 190.000 GIMBAL = .000

RUN NO. 38/ 0 RW/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.953	60.080	-.12890	-.12930	-.16330	-.14610	.16000
1.953	62.000	-.10220	-.10290	-.14500	-.12040	.17000
1.953	64.000	-.06100	-.06170	-.11130	-.07900	.19000
1.953	66.020	-.01470	-.01540	-.07380	-.03300	.20000
1.953	68.000	.03370	.03300	-.03060	.01470	.21000
1.953	70.000	.08700	.08630	.01620	.06390	.23000
1.953	72.000	.14940	.14830	.06730	.12100	.24000
1.953	74.000	.22340	.22270	.12730	.19220	.26000
1.953	76.000	.29640	.29640	.18440	.26780	.28000
1.953	78.000	.36200	.36150	.25030	.35400	.29000
1.953	79.900	.46800	.46730	.32010	.44510	.30000
1.953	70.000	.13060	.13260	.06860	.10930	.03000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 51/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	60.100	.02930	.02870	.00500	.01090	.08000
2.740	61.970	.02940	.02820	.00480	.00760	.09000
2.740	64.000	.05530	.05330	.02890	.03110	.10000
2.740	66.000	.09050	.08880	.05460	.06660	.11000
2.740	68.000	.13250	.13040	.08380	.10730	.12000
2.740	70.000	.18180	.18010	.12110	.15420	.12000
2.740	72.000	.23580	.23420	.16380	.20510	.13000
2.740	74.000	.29240	.29110	.20870	.26450	.14000
2.740	76.000	.35110	.34970	.25850	.33030	.15000
2.740	78.000	.41350	.41180	.31340	.40520	.15000
2.740	79.900	.47980	.47840	.37360	.47070	.16000
2.740	70.000	.27940	.27810	.22230	.25980	.13000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

(RIJ113) (06 AUG 75)

MSFC TWT 811 (SA30F) SRB - HEAT SHIELD ON SKIRT

PARAMETRIC DATA

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
 LREF = 145.6400 IN. YREF = .0000 IN. YN
 BREF = 145.6400 IN. ZREF = .0000 IN. ZN
 SCALE = .0055

PMI - 180.000 OIMBAL = .000

RUN NO. 52/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	QALPHA
3.480	60.100	.04950	.04470	.02650	.02780	.08000
3.480	62.000	.05250	.05150	.02780	.03300	.09000
3.480	64.000	.07300	.07160	.04320	.04930	.10000
3.480	66.000	.10260	.10090	.06300	.07420	.11000
3.480	68.000	.13650	.13690	.08880	.10800	.11000
3.480	70.000	.17820	.17680	.11880	.14750	.12000
3.480	72.000	.21660	.21620	.14760	.18860	.13000
3.480	74.000	.25860	.25800	.17950	.24050	.13000
3.480	76.000	.30670	.30610	.21780	.29500	.14000
3.480	78.000	.35930	.35870	.26310	.34910	.15000
3.480	79.900	.41540	.41440	.31070	.40360	.16000
3.480	70.000	.26530	.26420	.20730	.24740	.12000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SRB - HEAT SHIELD ON SKIRT (RIJ114) (06 AUG 75)

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1950 IN. DN
 LREF = 145.6400 IN. YREF = .0000 IN. YN
 BREF = 145.6400 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 33/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.955	79.980	.40590	.40560	.29240	.37470	.29000
1.955	81.900	.47500	.47460	.34810	.45010	.30000
1.955	83.900	.55210	.55210	.40690	.52890	.30000
1.955	85.920	.63740	.63740	.46600	.60500	.31000
1.955	87.920	.71620	.71520	.51640	.68210	.33000
1.955	89.900	.77800	.77730	.55420	.74310	.34000
1.955	91.900	.82400	.82300	.58100	.78750	.36000
1.955	93.900	.83870	.83800	.57690	.81350	.37000
1.955	95.900	.83250	.83110	.56050	.80150	.39000
1.955	97.900	.80350	.80310	.52270	.76570	.39000
1.955	99.800	.77890	.77860	.49770	.73940	.40000
1.955	99.900	.79360	.79290	.56980	.75630	.34000
GRADIENT		.00000	.00000	.00000	.00000	.00000

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RUN NO. 82/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	80.000	.43060	.43060	.30750	.41480	.16000
2.740	81.900	.48940	.48760	.35000	.46820	.17000
2.740	83.900	.55310	.55130	.39520	.52700	.17000
2.740	85.900	.62060	.61940	.44140	.58780	.18000
2.740	87.900	.69170	.68980	.48880	.65580	.19000
2.740	89.900	.75240	.75120	.52520	.72080	.20000
2.740	91.900	.80830	.80710	.55600	.77490	.21000
2.740	93.900	.85450	.85260	.58840	.82410	.23000
2.740	95.900	.87750	.87570	.59930	.84720	.23000
2.740	97.900	.87150	.87090	.58410	.83930	.23000
2.740	99.800	.94500	.84460	.55130	.80790	.23000
2.740	99.900	.77000	.76940	.54220	.73780	.20000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(RIJ114) (08 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PM1 = 180.000 01MBAL = .000

RUN NO. 81/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	80.000	.39950	.39950	.29520	.38210	.16000
3.480	81.900	.44630	.44630	.32570	.42660	.17000
3.480	83.900	.50700	.50470	.36550	.48220	.18000
3.480	85.920	.57320	.57210	.41250	.54610	.18000
3.480	87.920	.64480	.64310	.46100	.61550	.20000
3.480	89.900	.72370	.72210	.51570	.68270	.22000
3.480	91.900	.79990	.79820	.57150	.70940	.24000
3.480	93.900	.85290	.85170	.61490	.82690	.25000
3.480	95.900	.89230	.89010	.64260	.86810	.25000
3.480	97.900	.93970	.93740	.66170	.91540	.24000
3.480	99.800	.96070	.95950	.65860	.93080	.24000
3.480	89.900	.74910	.74970	.55120	.72210	.22000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT (RIJ115) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XPRP = 114.1950 IN. YN
 LINEF = 145.0400 IN. YPRP = .0000 IN. YN
 SREF = 145.0400 IN. ZPRP = .0000 IN. ZN
 SCALE = .0095

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 24/ 1 RW/L = 7.59 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.953	99.980	.88850	.88780	.81030	.85260	.41000
1.953	101.900	.86030	.85960	.57710	.81490	.43000
1.953	103.900	.82220	.82150	.54890	.77430	.44000
1.953	105.920	.78810	.78740	.51440	.73910	.44000
1.953	107.900	.74020	.73980	.50690	.73500	.46000
1.953	109.900	.77140	.77070	.50290	.72730	.46000
1.953	111.900	.76570	.76540	.50060	.71960	.46000
1.953	113.900	.77110	.77070	.50560	.72480	.46000
1.953	115.900	.77920	.77960	.51680	.73520	.46000
1.953	117.900	.79790	.79750	.53560	.75170	.46000
1.953	119.800	.81190	.81230	.55500	.76940	.45000
1.953	109.900	.75040	.74970	.48550	.70650	.46000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 79/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	100.000	.90640	.90520	.60190	.87120	.23000
2.740	101.900	.85810	.85570	.55710	.80780	.24000
2.740	103.900	.80510	.80390	.51100	.75660	.24000
2.740	105.900	.76750	.76570	.48610	.72570	.25000
2.740	107.900	.74870	.74690	.47280	.70930	.25000
2.740	109.900	.74650	.74520	.47270	.70820	.25000
2.740	111.900	.75070	.74950	.47820	.71310	.25000
2.740	113.900	.75600	.75480	.48550	.71840	.25000
2.740	115.900	.76530	.76410	.49700	.72760	.25000
2.740	117.900	.77800	.77560	.50790	.73800	.25000
2.740	119.800	.79080	.78960	.52250	.75070	.26000
2.740	109.900	.75070	.74950	.48300	.71250	.25000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TWT 611 (SA30F)

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W-C TWT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT (RIJ115) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XAPP = 114.1850 IN. XN
LREF = 142.5700 IN. YAPP = .0000 IN. YN
BREF = 145.8400 IN. ZAPP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 80/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	100.000	.94810	.94440	.64650	.91780	.24000
3.480	101.900	.92470	.92250	.61690	.87960	.24000
3.480	103.900	.85650	.85480	.55600	.79940	.25000
3.480	105.900	.79900	.79680	.50920	.74600	.25000
3.480	107.900	.75790	.75620	.48550	.71670	.25000
3.480	109.900	.71490	.71260	.47710	.70600	.26000
3.480	111.900	.74830	.74600	.48330	.71110	.26000
3.480	113.900	.75620	.75450	.49290	.71890	.26000
3.480	115.900	.76860	.76740	.50470	.73020	.26000
3.480	117.900	.78210	.77980	.51710	.74320	.27000
3.480	119.800	.80350	.80130	.53800	.76410	.28000
3.480	121.800	.75050	.74830	.48890	.71180	.26000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TMT 811 (SA30F)

PAGE 115

MSFC TMT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT (R1J116) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.0400 IN. YPRP = .0000 IN. YN
BREF = 145.0400 IN. ZPRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 19/ 0 RW/L = 7.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.958	131.020	1.02190	1.02380	.78500	.97430	.94000
1.958	131.900	1.04690	1.05040	.81350	.99980	.94000
1.958	133.900	1.05150	1.05300	.80980	.99250	.93000
1.958	135.880	1.01540	1.01650	.77030	.95190	.92000
1.958	137.900	.96680	.96860	.72470	.90600	.90000
1.958	139.900	.94300	.94560	.70320	.88620	.90000
1.958	141.900	.89750	.90280	.67280	.85590	.93000
1.958	143.920	1.15590	1.15780	.92300	1.10570	.95000
1.958	145.920	1.13980	1.14300	.89710	1.08620	.92000
1.958	147.900	1.07060	1.07130	.81080	1.01460	.90000
1.958	148.900	1.02780	1.02930	.75810	.96760	.92000
1.958	139.900	.93450	.93720	.69610	.87820	.95000
	GRADIENT	.00000	.00000	.00000	.00000	.00050

RUN NO. 90/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	130.000	.99860	.99560	.73190	.95080	.93000
2.740	131.900	1.04920	1.04610	.76490	.98600	.93000
2.740	133.900	1.04080	1.04020	.74950	.96440	.93000
2.740	135.900	1.01330	1.01330	.72370	.93580	.93000
2.740	137.920	.98780	.98900	.69660	.91130	.91000
2.740	139.900	.94430	.94800	.66750	.87630	.90000
2.740	141.900	.91220	.91580	.64510	.85450	.90000
2.740	143.900	.88420	.88910	.62260	.83810	.92000
2.740	145.900	.85750	.86060	.59590	.82110	.96000
2.740	147.900	.81260	.81630	.55770	.78230	.94000
2.740	149.800	.79440	.79680	.53340	.75070	.92000
2.740	139.900	.93830	.94070	.65540	.87090	.90000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 28 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

(R1J116) (06 AUG 75)

REFERENCE DATA

SREF = 115.6800 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 88/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	130.000	.96200	.92910	.70430	.92140	.27000
3.480	131.900	1.09450	1.09110	.82950	1.05160	.34000
3.480	133.900	1.15760	1.15700	.86030	1.08590	.34000
3.480	135.900	1.08820	1.08980	.78300	1.00360	.34000
3.480	137.900	1.03980	1.04430	.74150	.95860	.33000
3.480	139.920	1.01780	1.02400	.72850	.94820	.32000
3.480	141.900	1.00020	1.00360	.71420	.93700	.31000
3.480	143.900	.96250	.96700	.68060	.91460	.29000
3.480	145.900	.91120	.91400	.63380	.87570	.28000
3.480	147.900	.85580	.85750	.58560	.82530	.26000
3.480	149.800	.88060	.88010	.58390	.78640	.19000
3.480	139.900	1.00980	.01370	.70800	.93760	.32000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA
PARAMETRIC DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0025
PHI = 180.000 GIMBAL = .000

RUN NO. 107/ 0 RM/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.949	150.120	1.03940	1.03990	.76500	.97530	.29009
1.949	152.000	.94560	.94750	.66400	.87800	.27550
1.949	154.000	.82190	.82370	.53990	.73580	.25000
1.949	155.980	.70420	.70650	.43500	.60970	.23000
1.949	158.000	.59750	.59970	.35190	.50720	.20000
1.949	160.000	.49380	.49610	.27860	.41100	.18000
1.949	162.000	.40790	.41010	.22030	.32940	.15000
1.949	164.020	.33740	.33990	.18020	.26550	.13000
1.949	166.020	.28960	.29110	.15950	.22610	.10000
1.949	168.020	.25060	.25170	.14390	.19590	.08000
1.949	169.920	.21920	.21960	.13740	.17380	.06000
1.949	180.000	.49230	.49300	.27270	.40860	.18000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 107/ 0 RM/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.090	.93770	.93950	.63210	.84960	.18000
2.740	152.000	.83140	.84110	.56830	.74940	.17000
2.740	154.000	.73170	.73600	.49480	.65220	.15000
2.740	156.000	.64180	.64610	.43170	.56530	.13000
2.740	159.000	.56290	.56710	.37940	.49060	.11000
2.740	160.020	.49900	.50390	.33850	.43100	.10000
2.740	162.000	.44320	.44740	.30410	.38180	.08000
2.740	164.000	.39890	.40370	.27860	.34240	.07000
2.740	166.000	.36530	.36890	.26340	.31360	.05000
2.740	168.000	.33790	.34220	.25460	.29360	.04000
2.740	169.900	.31500	.31870	.25030	.27860	.03000
2.740	180.000	.44990	.45110	.29800	.38060	.09000
GRADIENT		.00000	.00000	.00000	.00000	.00000

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C.4

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN

LREF = 145.6400 IN. YREF = .0000 IN. YN

BREF = 145.6400 IN. ZREF = .0000 IN. ZN

SCALE = .0095

PHI = 180.000 01MBAL = .000

PARAMETRIC DATA

RUN NO. 108/ 0		RW/L = 7.11		GRADIENT INTERVAL = -5.00/ 5.00	
MACH	ALPHA	CPC1	CPC2	CPC3	CPC4
3.480	150.090	.91890	.92050	.81890	.81730
3.480	152.000	.78500	.79120	.54580	.70440
3.480	154.000	.69650	.69870	.48490	.62140
3.480	156.000	.61640	.61800	.42800	.54640
3.480	158.000	.55010	.55180	.38420	.48460
3.480	160.000	.49400	.49620	.35010	.43300
3.480	162.000	.44910	.45130	.32150	.39040
3.480	164.000	.41100	.41330	.30100	.35800
3.480	166.000	.38360	.38640	.28990	.33620
3.480	168.000	.35930	.36100	.28490	.31930
3.480	169.900	.34020	.34020	.27980	.30400
3.480	160.000	.45080	.44960	.31650	.38870
	GRADIENT	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (8430F)

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MSFC TMT 811 (8430F) SWS - HEAT SHIELD ON SKIRT (R1J118) (08 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1820 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 5/ 0 RW/L = 7.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.952	165.100	.30400	.30250	.16080	.24070	.12000
1.952	167.000	.26640	.26720	.14480	.20990	.09000
1.952	169.000	.23360	.23360	.13710	.19290	.07000
1.952	170.980	.20500	.20420	.13140	.15810	.05000
1.952	173.000	.17420	.17230	.12730	.14080	.06000
1.952	175.000	.15430	.15350	.12200	.13180	.03000
1.952	177.000	.13020	.13020	.11480	.11670	.03000
1.952	179.020	.12880	.12880	.12360	.12210	.02000
1.952	181.000	.14920	.14960	.13540	.12710	.00000
1.952	183.020	.16330	.16440	.14410	.12860	.00000
1.952	184.900	.16230	.15420	.15630	.13710	-.02000
1.952	175.000	.15540	.15540	.13250	.13550	.05000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 118/ 0 RW/L = 5.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.100	.37680	.37620	.25320	.31860	.06000
2.740	167.000	.35340	.35280	.24840	.30180	.05000
2.740	169.000	.32840	.32720	.24390	.28280	.04000
2.740	171.000	.30530	.30350	.24090	.26520	.03000
2.740	173.000	.28000	.27820	.23630	.24900	.02000
2.740	175.000	.25550	.25370	.22880	.23420	.02000
2.740	177.000	.23910	.23790	.22630	.22690	.01000
2.740	179.000	.23180	.23120	.22690	.22510	.01000
2.740	181.000	.23730	.23670	.22880	.22450	.00000
2.740	183.000	.25450	.25490	.23790	.22810	.00000
2.740	184.900	.27680	.27940	.25330	.23810	.00000
2.740	175.020	.25240	.25180	.23240	.23060	.02000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

(RIJ118) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = .000

RUN NO. 117/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

HACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	165.100	.39000	.38770	.27830	.33640	.06000
3.480	167.000	.37170	.37110	.27850	.32490	.05000
3.480	169.000	.35050	.34990	.27440	.30930	.04000
3.480	171.000	.32790	.32680	.27040	.29300	.03000
3.480	173.000	.30750	.30580	.26740	.27930	.02000
3.480	175.000	.28400	.28170	.25910	.26530	.02000
3.480	177.000	.26760	.26650	.25520	.25690	.01000
3.480	179.000	.26140	.26030	.25690	.25580	.02000
3.480	181.000	.26590	.26530	.25970	.25520	.01000
3.480	183.000	.28230	.28230	.26760	.25910	.00000
3.480	184.900	.30390	.30390	.28070	.26660	.00000
3.480	175.000	.28040	.27980	.26120	.26070	.02000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT (RIJ119) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
 LREF = 145.6400 IN. Y P = .0000 IN. YN
 BREF = 145.6400 IN. ZREF = .0000 IN. ZN
 SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 37/ 0 RN/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPCN	GAMMA
1.956	60.080	-.13590	-.13680	-.15460	-.15250	.13000
1.956	62.000	-.11990	-.12030	-.14380	-.13610	.14000
1.956	64.000	-.08220	-.08250	-.11060	-.09630	.15000
1.956	66.000	-.03760	-.03800	-.07140	-.05420	.17000
1.956	68.020	.01260	.01150	-.02670	-.00350	.18000
1.956	70.000	.06460	.06460	.02320	.05230	.20000
1.956	72.000	.12800	.12770	.07960	.11750	.21000
1.956	74.000	.20190	.20190	.14240	.19070	.23000
1.956	76.000	.26950	.26910	.21500	.27860	.25000
1.956	78.000	.37590	.37450	.28950	.36920	.26000
1.956	79.900	.45390	.45350	.35880	.44790	.27000
1.956	70.000	.10860	.11110	.07490	.09900	.20000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 54/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPCN	GAMMA
2.740	60.100	.01070	.01030	.00200	-.00260	.07000
2.740	61.970	.01100	.01020	.00220	-.00547	.03000
2.740	64.000	.03310	.03190	.02460	.01490	.09000
2.740	66.000	.06760	.06600	.05570	.04790	.10000
2.740	68.000	.10730	.10530	.08950	.09010	.10000
2.740	70.000	.15520	.15350	.12520	.13820	.11000
2.740	72.000	.20870	.20760	.16290	.19050	.12000
2.740	74.000	.26690	.26580	.20850	.25340	.12000
2.740	76.000	.33160	.33100	.26590	.32590	.13000
2.740	78.000	.39790	.39730	.32980	.39690	.14000
2.740	79.900	.46720	.46500	.39370	.46250	.15000
2.740	70.000	.25920	.25800	.22630	.24760	.11000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

MSFC TNT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT
(R1J119) (06 AUG 75)

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0095

PARAMETRIC DATA

PHI = 180.000 01MBAL = 2.500

RUN NO. 53/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	60.080	.05120	.05020	.04530	.03670	.06000
3.480	61.970	.04880	.04840	.04220	.03240	.07000
3.480	64.000	.06410	.06270	.05760	.04480	.09000
3.480	66.020	.08930	.08740	.07920	.06780	.10000
3.480	68.000	.12300	.12090	.10850	.10210	.10000
3.480	70.000	.16360	.16230	.13570	.14480	.10000
3.480	72.000	.20610	.20560	.16580	.19010	.11000
3.480	74.000	.25280	.25290	.20250	.24300	.12000
3.480	76.000	.30540	.30530	.24920	.30000	.12000
3.480	78.000	.36240	.36200	.30610	.36120	.13000
3.480	79.900	.42130	.42010	.36310	.41630	.14000
3.480	70.000	.25940	.25870	.22900	.24980	.10000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 29 AUG 75

TABULATED SOURCE DATA, MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT (R1J120) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
 LREF = 145.0400 IN. YREF = .0000 IN. YM
 BREF = 145.0400 IN. ZREF = .0000 IN. ZM
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 34/ 0 RM/L = 7.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.957	79.980	.37480	.37490	.29980	.35720	.26000
1.957	81.900	.44070	.43930	.35510	.42770	.27000
1.957	83.900	.49830	.49660	.39060	.47520	.28000
1.957	85.900	.56180	.55950	.42920	.52710	.29000
1.957	87.920	.62620	.62480	.47620	.58740	.31000
1.957	89.900	.69390	.69390	.53270	.65410	.32000
1.957	91.900	.77060	.76990	.60470	.73200	.33000
1.957	93.920	.85430	.85360	.67710	.81220	.35000
1.957	95.900	.92020	.91980	.72570	.86790	.36000
1.957	97.900	.98700	.98730	.77860	.93020	.37000
1.957	99.800	1.03320	1.03390	.81080	.98000	.38000
1.957	99.900	.70230	.70230	.54510	.66290	.32000
1.957	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 56/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	80.000	.45230	.45110	.37520	.43530	.14000
2.740	81.900	.51670	.51310	.43170	.49540	.15000
2.740	83.900	.58890	.58530	.49120	.55980	.16000
2.740	85.900	.66240	.65870	.54950	.62600	.16000
2.740	87.900	.73160	.72980	.60110	.69090	.17000
2.740	89.900	.80810	.80500	.65940	.76130	.18000
2.740	91.900	.89000	.88760	.72070	.83780	.19000
2.740	93.900	.97860	.97740	.78560	.92040	.20000
2.740	95.900	1.06400	1.06280	.85080	1.00270	.22000
2.740	97.900	1.11940	1.11940	.88870	1.05630	.22000
2.740	99.800	1.14800	1.14860	.90030	1.08420	.22000
2.740	99.900	.83420	.83480	.69150	.78860	.18000
2.740	GRADIENT	.00000	.00000	.00000	.00000	.00000

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DATE 21 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SRS - HEAT SHIELD ON SKIRT

(RIJ120) (06 AUG 75)

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 60/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	80.000	.41870	.41500	.35070	.40450	.14000
3.480	81.900	.47680	.47230	.40010	.45480	.15000
3.480	83.900	.54020	.53570	.45230	.50980	.16000
3.480	85.900	.60560	.60110	.50300	.56730	.17000
3.480	87.900	.67770	.67320	.55990	.63490	.18000
3.480	89.900	.76660	.76380	.62960	.71980	.19000
3.480	91.900	.87200	.86920	.71130	.81730	.21000
3.480	93.900	.97070	.96960	.78910	.91320	.23000
3.480	95.900	1.03720	1.03670	.83820	.97630	.24000
3.480	97.900	1.09030	1.09030	.87160	1.02720	.24000
3.480	99.800	1.12640	1.12690	.88510	1.05590	.23000
3.480	89.500	.80160	.80210	.67300	.75590	.19000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SFB - HEAT SHIELD ON SKIRT (RIJ121) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XPRP = 114.1950 IN. XN
 LREF = 145.8400 IN. YPRP = .0000 IN. YN
 BREF = 145.8400 IN. ZPRP = .0000 IN. ZN
 SCALE = .0053

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 23/ 2 RM/L = 7.56 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.956	99.980	1.04960	1.04990	.84140	.95430	.39000
1.956	101.900	1.13580	1.10790	.88020	1.05190	.41000
1.956	103.900	1.08740	1.08910	.84730	1.02740	.41000
1.956	105.920	1.04500	1.05080	.79060	.97510	.42000
1.956	107.900	1.01920	1.01880	.75160	.93880	.43000
1.956	109.900	.98870	.99050	.72880	.90850	.43000
1.956	111.900	.97360	.97540	.71580	.89330	.43000
1.956	113.900	.97630	.97800	.72000	.89660	.43000
1.956	115.900	.98350	.98450	.72670	.90300	.43000
1.956	117.900	.99960	1.00130	.74630	.92080	.43000
1.956	119.800	1.01120	1.01300	.76230	.93600	.42000
1.956	109.900	.98390	.98570	.72510	.90470	.43000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 82/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	100.000	1.18700	1.18640	.93710	1.12190	.22000
2.740	101.900	1.19200	1.19200	.91880	1.12100	.22000
2.740	103.900	1.12820	1.12820	.84300	1.04390	.22000
2.740	105.900	1.04570	1.04570	.76350	.95220	.23000
2.740	107.900	.98620	.98680	.71730	.90000	.23000
2.740	109.900	.95710	.95830	.69670	.87210	.23000
2.740	111.900	.94860	.94920	.69060	.86420	.23000
2.740	113.900	.95100	.95160	.69610	.86790	.23000
2.740	115.900	.95710	.95650	.69970	.87210	.23000
2.740	117.900	.96620	.96560	.71060	.88000	.23000
2.740	119.800	.97890	.97890	.72340	.89270	.23000
2.740	109.900	.96010	.96070	.69850	.87390	.23000
GRADIENT		.00000	.00000	.00000	.00000	.00000

(R1J121) (06 AUG 75)

MSFC TMT 811 (SA30F) S98 - HEAT SHIELD ON SKIRT

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
 LREF = 145.6400 IN. YREF = .0000 IN. YM
 BREF = 145.6400 IN. ZREF = .0000 IN. ZM
 SCALE = .0095

RUN NO. 81/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	100.000	1.11640	1.11580	.88120	1.04480	.23000
3.480	101.900	1.14180	1.14130	.88700	1.06400	.22000
3.480	103.800	1.16750	1.16810	.92140	1.10970	.23000
3.480	105.900	1.18800	1.18870	.89700	1.10340	.23000
3.480	107.900	1.11700	1.11810	.82990	1.01950	.24000
3.480	109.900	1.03980	1.04090	.76740	.94790	.24000
3.480	111.900	.99640	.99690	.74040	.91400	.24000
3.480	113.900	.96510	.96620	.73190	.90260	.24000
3.480	115.900	.99350	.99410	.73980	.91120	.24000
3.480	117.900	1.00480	1.00480	.75050	.92080	.24000
3.480	119.800	1.02170	1.02170	.76800	.93830	.24000
3.480	109.900	1.04090	1.04090	.76630	.94900	.24000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, HSEFC TMT 811 (SA30F)

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HSEFC TMT 811 (SA30F) SUB - HEAT SHIELD ON SKIRT (RIJ122) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1850 IN. XM
LREF = 145.8400 IN. YREF = .0000 IN. YM
BREF = 145.8400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 20/ 0 RM/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.948	130.000	1.19240	1.19780	.86670	1.15220	.59000
1.948	131.900	1.23750	1.23940	1.00860	1.18790	.59000
1.948	133.800	1.24860	1.25050	1.01040	1.19350	.60000
1.948	135.880	1.23810	1.24000	.99010	1.17740	.58000
1.948	137.900	1.21260	1.21490	.95800	1.14590	.54000
1.948	139.900	1.16880	1.17100	.90830	1.09830	.51000
1.948	141.800	1.11920	1.12070	.86460	1.04870	.47000
1.948	143.920	1.09010	1.09310	.83640	1.02520	.44000
1.948	145.900	1.34510	1.34810	1.13420	1.29220	.35000
1.948	147.900	1.35130	1.35390	1.10820	1.27540	.3.000
1.948	148.900	1.33240	1.33430	1.06290	1.24550	.29000
1.948	139.900	1.18200	1.18470	.91770	1.11080	.50000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 87/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	130.000	1.10810	1.10810	.86200	1.02670	.22000
2.740	131.900	1.18710	1.18640	.93370	1.10200	.29000
2.740	133.900	1.22600	1.22600	.95950	1.13010	.31000
2.740	135.900	1.20470	1.20530	.93130	1.10810	.31000
2.740	137.920	1.17320	1.17620	.90430	1.08270	.30000
2.740	139.900	1.13130	1.13550	.86600	1.04510	.29000
2.740	141.900	1.08580	1.08880	.82660	1.00560	.28000
2.740	143.900	1.04790	1.05150	.79400	.97940	.27000
2.740	145.900	1.01900	1.02440	.77260	.96560	.26000
2.740	147.900	.96980	.97530	.73610	.94130	.24000
2.740	149.800	1.38450	1.38570	1.04670	1.23020	.14000
2.740	139.900	1.12870	1.13300	.86690	1.04370	.29000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SWS - HEAT SHIELD ON SKIRT (R1J122) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 01MSAL = 2.500

RUN NO. 68/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	130.000	1.16600	1.16600	.92070	1.06540	.26000
3.480	131.800	1.16640	1.16640	.94390	1.10860	.26000
3.480	133.600	1.31380	1.31440	1.08400	1.23540	.32000
3.480	135.400	1.33130	1.33350	1.05500	1.23820	.32000
3.480	137.200	1.25230	1.25460	.96990	1.15870	.31000
3.480	139.000	1.19930	1.20380	.92020	1.11020	.31000
3.480	141.800	1.14860	1.15540	.87960	1.06910	.31000
3.480	143.600	1.11700	1.12150	.84900	1.04650	.29000
3.480	145.400	1.07980	1.08320	.81250	1.02680	.28000
3.480	147.200	1.04260	1.04200	.77530	1.00650	.26000
3.480	149.000	1.48350	1.48350	1.07470	1.30760	.15000
3.480	139.900	1.19430	1.19880	.91230	1.10630	.31000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 611 (SA30F)

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MSFC TMT 611 (SA30F) SRS - HEAT SHIELD ON SKIRT (R1J123) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 9/ 0 RM/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.948	150.120	1.32500	1.32690	1.12620	1.26260	.30000
1.948	152.020	1.26760	1.26950	1.07240	1.21440	.27000
1.948	154.020	1.17100	1.17100	.92360	1.06970	.25000
1.948	155.980	1.06310	1.06490	.79050	.94350	.23000
1.948	158.000	.95450	.95670	.67270	.82840	.21000
1.948	160.000	.82580	.82690	.56190	.69830	.19000
1.948	162.020	.65280	.65430	.42270	.54040	.17000
1.948	164.020	.53700	.53910	.33890	.43460	.14000
1.948	166.020	.44420	.44610	.27490	.35540	.11000
1.948	168.020	.36940	.37090	.22760	.29210	.09000
1.948	169.920	.30950	.30950	.19440	.24330	.07000
1.948	160.000	.81180	.81290	.54650	.69130	.19000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 110/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.090	1.47070	1.47130	1.15760	1.33750	.15000
2.740	152.000	1.32480	1.31870	1.00490	1.16060	.15000
2.740	154.000	1.11730	1.11730	.83200	.98500	.15000
2.740	156.000	.96170	.96470	.70900	.84440	.13000
2.740	158.000	.83630	.83750	.60560	.72580	.12000
2.740	160.000	.72950	.73130	.52790	.62930	.10000
2.740	162.000	.63300	.63540	.46000	.54430	.08000
2.740	164.000	.55530	.55650	.40470	.47510	.07000
2.740	166.000	.48970	.49030	.35980	.41870	.06000
2.740	168.000	.43510	.43690	.32640	.37320	.04000
2.740	169.900	.39620	.39680	.30460	.34160	.03000
2.740	160.000	.67730	.67540	.46540	.57230	.10000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TMT 811 (SA30F)

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NSFC TMT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

(RIJ123) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0035

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 2.500

RUN NO. 100/ 0 RN/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	150.090	1.53490	1.53770	1.18190	1.38970	.15000
3.480	152.000	1.41970	1.41650	1.03760	1.20500	.14000
3.480	154.000	1.11250	1.10680	.81580	.96970	.16000
3.480	156.000	.92110	.92730	.68750	.81500	.15000
3.480	158.000	.80650	.10590	.60000	.71460	.13000
3.480	160.000	.70780	.70350	.52720	.62430	.10000
3.480	162.000	.62200	.62370	.46740	.54640	.08000
3.480	164.000	.55540	.55770	.42170	.48830	.07000
3.480	166.000	.49710	.49930	.38140	.43560	.06000
3.480	168.000	.45050	.45160	.35230	.39690	.04000
3.480	169.900	.41150	.41270	.33140	.36470	.03000
3.480	160.000	.65530	.65420	.46910	.56950	.10000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, HSFC TWT 611 (S430F)

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HSFC TWT 611 (S430F) SWS - HEAT SHIELD ON SKIRT (R1J124) (06 AUG 75)

REFERENCE DATA

SREF = 115.6800 SQ.FT. XPRP = 114.1950 IN. XM
 LREF = 145.6400 IN. YPRP = .0000 IN. YM
 BREF = 145.6400 IN. ZPRP = .0000 IN. ZM
 SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 2.500

RUN NO. 6/ 0 RM/L = 7.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.983	165.100	.48420	.48570	.30290	.39440	.13000
1.983	167.000	.41560	.41720	.25250	.33560	.11000
1.983	169.020	.34610	.34720	.20980	.27310	.08000
1.983	171.000	.27640	.27600	.17770	.21990	.07000
1.983	173.000	.23870	.23840	.16220	.18870	.05000
1.983	175.000	.21300	.21070	.15650	.17240	.03000
1.983	177.000	.17450	.17340	.13510	.14560	.01000
1.983	179.020	.15240	.15240	.12980	.13510	.00000
1.983	181.020	.16040	.15930	.14280	.14470	-.01000
1.983	183.020	.14570	.14600	.13590	.13060	-.02000
1.983	184.920	.14600	.14710	.13310	.12480	-.03000
1.983	175.000	.19660	.19550	.15200	.16270	.03000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 115/ 0 RM/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.100	.43530	.43470	.25790	.34540	.06000
2.740	167.000	.38670	.38790	.23910	.30950	.05000
2.740	169.000	.33890	.33890	.1810	.27150	.04000
2.740	171.000	.30180	.30060	.20530	.24300	.02000
2.740	173.000	.26880	.26820	.19470	.22270	.01000
2.740	175.000	.23870	.23810	.18470	.20110	.00000
2.740	177.000	.21260	.21080	.17620	.18590	.00000
2.740	179.000	.18620	.18500	.16800	.16980	.00000
2.740	181.000	.17320	.17260	.16770	.16650	.00000
2.740	183.000	.17350	.17410	.16680	.15950	.00000
2.740	184.900	.19110	.19170	.17650	.16310	-.01000
2.740	175.000	.21050	.20870	.17650	.18080	.00000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SFB - HEAT SHIELD ON SKIRT

(RIJICN) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 I.I. ZPRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 2.500

RUN NO. 116/ 0 PH/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	165.100	.42010	.41950	.26800	.34210	.06000
3.480	167.000	.38850	.38900	.25760	.32130	.05300
3.480	169.000	.34920	.34970	.24260	.29170	.04000
3.480	171.000	.31610	.31550	.23040	.26590	.02000
3.480	173.000	.28900	.28850	.22360	.24840	.01000
3.480	175.000	.26240	.26180	.21500	.23020	.00000
3.480	177.000	.23880	.23880	.20670	.21570	.00000
3.480	179.000	.21630	.21690	.20050	.20280	.00000
3.480	181.000	.20380	.20430	.19980	.19980	.00000
3.480	183.000	.20610	.20610	.19880	.19540	-.01000
3.480	184.900	.21740	.21800	.20450	.19370	-.01000
3.480	175.000	.23380	.23320	.20500	.20950	.01000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT (K1J125) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 50.FT. XPRP = 114.1950 IN. XN
LREF = 145.8700 IN. YPRP = .0000 IN. YN
BREF = 145.8400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 38/ 0 RM/L = 7.58 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.952	60.100	-.11670	-.11810	-.13180	-.13420	.18000
1.952	62.000	-.08700	-.08880	-.10670	-.10320	.19000
1.952	64.000	-.04500	-.04710	-.06790	-.06230	.22000
1.952	66.000	.00090	-.00070	-.02500	-.01660	.23000
1.952	68.020	.05200	.04920	.02070	.03120	.25000
1.952	70.000	.10470	.10180	.06680	.08190	.27000
1.952	72.000	.16390	.16070	.11830	.13970	.29000
1.952	74.000	.21890	.21650	.16390	.19300	.31000
1.952	76.000	.30300	.30090	.23330	.27710	.33000
1.952	78.000	.37550	.37340	.28670	.35140	.34000
1.952	79.900	.43590	.43450	.32500	.40760	.35000
1.952	70.000	.13990	.14010	.10760	.11960	.27000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 55/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	60.100	.05200	.05090	.04380	.03780	.10000
2.740	61.970	.04220	.04090	.03440	.02630	.11000
2.740	64.000	.06320	.05970	.04870	.04290	.12000
2.740	66.000	.09550	.09240	.07760	.07580	.13000
2.740	68.000	.13530	.13290	.11830	.11850	.14000
2.740	70.000	.18220	.18000	.16350	.16600	.14000
2.740	72.000	.23360	.23180	.20890	.21850	.16000
2.740	74.000	.28960	.28790	.25550	.27740	.17000
2.740	76.000	.35170	.34920	.30740	.34400	.17000
2.740	78.000	.41210	.40920	.35700	.40480	.18000
2.740	79.900	.47000	.46650	.40250	.46120	.19000
2.740	70.000	.27760	.27570	.25600	.26620	.15000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SSB - HEAT SHIELD ON SKIRT (RIJ125) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. S8/ 0 RN/L = 7.12 GRADIENT INTERVAL = -.3.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	60.100	.04760	.04690	.04320	.02960	.09000
3.480	61.970	.05740	.05590	.05230	.03780	.10000
3.480	64.000	.07830	.07400	.06840	.05460	.12000
3.480	63.020	.10350	.10110	.08600	.06750	.12000
3.480	68.000	.14020	.13680	.12240	.12030	.13000
3.480	70.020	.17960	.17770	.16310	.16260	.14000
3.480	72.000	.21960	.21840	.19810	.20460	.15000
3.480	74.000	.26480	.26390	.23180	.25560	.16000
3.480	76.000	.31650	.31430	.27640	.31020	.17000
3.480	78.000	.36790	.36460	.32080	.36200	.17000
3.480	79.900	.41860	.41520	.36240	.41120	.18000
3.480	70.000	.26820	.26640	.24800	.25800	.14000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 78

TABULATED SOURCE DATA, MSFC THT 811 (SAS30F)

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MSFC THT 811 (SAS30F) 988 - HEAT SHIELD ON SKIRT (RIJ126) (08 AUG 78)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1860 IN. XN
 LREF = 145.6400 IN. YREF = .0000 IN. YN
 BREF = 145.6400 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

PARAMETRIC DATA

PHI = 160.000 GINBAL = 5.000

RUN NO. 35/ 0 RN/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.959	80.000	.37400	.37330	.28330	.34980	.34000
1.959	81.900	.42250	.42220	.31160	.39450	.35000
1.959	83.900	.47590	.47480	.34370	.44000	.36000
1.959	85.900	.54350	.54250	.39190	.49870	.38000
1.959	87.920	.62010	.62010	.46580	.57880	.40000
1.959	89.900	.71410	.71370	.57860	.68340	.42000
1.959	91.930	.81270	.81200	.68810	.78350	.44000
1.959	93.900	.88590	.88590	.75780	.85500	.46000
1.959	95.900	.95750	.95720	.82460	.92050	.47000
1.959	97.900	1.01420	1.01420	.87850	.97860	.48000
1.959	99.800	1.04390	1.04470	.88510	1.00380	.48000
1.959	19.900	.72380	.72420	.59060	.69210	.42000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 58/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	80.000	.46600	.46230	.39490	.42930	.21000
2.740	81.900	.50850	.50550	.42160	.48600	.19000
2.740	83.900	.56130	.55890	.45500	.53460	.20000
2.740	85.900	.61650	.61480	.49030	.58200	.21000
2.740	87.900	.68160	.68040	.53460	.63850	.22000
2.740	89.900	.75800	.75620	.59410	.70940	.23000
2.740	91.900	.85660	.85600	.68950	.81040	.25000
2.740	93.900	.97260	.97200	.80740	.92950	.27000
2.740	95.900	1.05600	1.05600	.88180	1.00930	.28000
2.740	97.900	1.11780	1.11780	.93070	1.06800	.28000
2.740	99.800	1.15670	1.15730	.95560	1.10020	.27000
2.740	89.900	.79380	.79500	.65060	.74770	.24000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

TABULATED SOURCE DATA. NSFC THT 811 (SA30F)

DATE 20 AUG 75

(R1J126) (06 AUG 75)

NSFC THT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

REFERENCE DATA

SREF = 115.6800 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0095

RUN NO. 57/ 0 RM/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
NACH						
3.480	80.020	.41330	.41300	.35820	.40400	.18000
3.480	81.910	.48070	.45730	.38850	.44320	.19000
3.480	83.900	.51140	.50860	.42400	.48830	.21000
3.480	85.900	.57070	.56780	.46520	.54130	.22000
3.480	87.900	.64710	.64540	.51960	.60980	.24000
3.480	89.900	.74180	.73950	.59410	.69840	.26000
3.480	91.900	.83480	.83370	.67190	.78460	.28000
3.480	93.900	.90470	.90470	.72770	.84850	.30000
3.480	95.900	.97910	.97850	.79740	.92320	.30000
3.480	97.900	1.05980	1.05920	.87090	1.00730	.29000
3.480	99.800	1.12850	1.12910	.92380	1.07270	.29000
3.480	89.900	.77670	.77840	.64540	.73610	.26000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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(R1J127) (08 AUG 75)

MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON SKIRT

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 22/ 3 RM/L = 7.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.946	99.900	1.04650	1.04800	.89590	1.00860	.46007
1.946	101.900	1.09380	1.09500	.92310	1.05070	.47000
1.946	103.900	1.15870	1.16060	.98050	1.11670	.48000
1.946	105.920	1.18810	1.18960	.98800	1.14240	.48000
1.946	107.900	1.15810	1.15920	.94520	1.10600	.49000
1.946	109.900	1.12680	1.12910	.91880	1.07720	.49000
1.946	111.900	1.11120	1.11300	.90350	1.05960	.48000
1.946	113.900	1.12060	1.12210	.91400	1.06880	.48000
1.946	115.900	1.13190	1.13340	.92520	1.08320	.47000
1.946	117.900	1.14240	1.15090	.94530	1.09860	.47000
1.946	119.800	1.16940	1.17050	.96760	1.12240	.46000
1.946	109.900	1.13140	1.13290	.92360	1.08080	.48000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 83/ 0 RM/L = 5.18 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	100.000	1.18890	1.18830	.99080	1.13240	.27000
2.740	101.900	1.21610	1.21070	.99200	1.14700	.27000
2.740	103.900	1.27150	1.27090	1.03900	1.20170	.27000
2.740	105.900	1.25930	1.25750	1.02240	1.18400	.27000
2.740	107.900	1.18520	1.18400	.95070	1.10930	.27000
2.740	109.900	1.14270	1.14090	.91250	1.07350	.27000
2.740	111.900	1.12760	1.12640	.90060	1.06210	.27000
2.740	113.900	1.12930	1.12810	.90340	1.06370	.27000
2.740	115.900	1.13240	1.13060	.90940	1.06860	.27000
2.740	117.900	1.13920	1.13860	.91760	1.07660	.27000
2.740	119.800	1.15060	1.15000	.92950	1.08620	.26000
2.740	109.900	1.13940	1.13760	.91030	1.06910	.27000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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(R1J127) (06 AUG 75)

MSFC TNT 811 (SA30F) SPS - HEAT SHIELD ON SKIRT

REFERENCE DATA

SREF = 115.8000 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.8400 IN. YPRP = .0000 IN. YN
BREF = 145.8400 IN. ZPRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 84/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	100.000	1.11550	1.11600	.91560	1.06030	.29000
3.480	101.900	1.13690	1.13740	.91110	1.07270	.28000
3.480	103.900	1.16280	1.16330	.91890	1.08900	.28000
3.480	105.900	1.24100	1.24100	.99280	1.16170	.28000
3.480	107.900	1.30410	1.30460	1.05260	1.22360	.28000
3.480	109.900	1.26080	1.25680	1.01100	1.16490	.29000
3.480	111.900	1.18810	1.18470	.95630	1.11190	.28000
3.480	113.900	1.16100	1.16040	.93870	1.09550	.28000
3.480	115.900	1.16320	1.16270	.94320	1.09950	.28000
3.480	117.900	1.17450	1.17390	.95680	1.11250	.28000
3.480	119.800	1.18860	1.18750	.97030	1.12660	.28000
3.480	109.900	1.25680	1.25230	1.00540	1.16440	.29000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT (R1J128) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0075

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 21/ 0 RM/L = 7.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.952	130.020	1.26910	1.29080	1.11940	1.24910	.56000
1.952	131.900	1.32030	1.32220	1.15550	1.27930	.57000
1.952	133.900	1.32940	1.33060	1.16830	1.28860	.57000
1.952	135.880	1.34250	1.34480	1.18340	1.30500	.57000
1.952	137.900	1.35980	1.37250	1.19240	1.32620	.56000
1.952	139.900	1.31240	1.31430	1.11950	1.26100	.54000
1.952	141.900	1.26820	1.27050	1.07290	1.21830	.50000
1.952	143.920	1.23590	1.23770	1.03340	1.18220	.47000
1.952	145.900	1.18410	1.18450	.97920	1.13930	.43000
1.952	147.900	1.41170	1.41440	1.27640	1.37930	.35000
1.952	148.900	1.41990	1.42250	1.27430	1.38100	.33000
1.952	139.900	1.34100	1.34330	1.14680	1.28780	.53000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 86/ 0 RM/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	130.000	1.25930	1.26000	1.04630	1.19860	.25000
2.740	131.900	1.27690	1.27570	1.06470	1.21690	.25000
2.740	133.900	1.36990	1.37110	1.15910	1.31220	.32000
2.740	135.900	1.45070	1.45070	1.21320	1.37780	.32000
2.740	137.920	1.45860	1.45920	1.20160	1.37110	.32000
2.740	139.900	1.41000	1.41360	1.14210	1.32740	.31000
2.740	141.900	1.33470	1.34320	1.06850	1.25690	.30000
2.740	143.900	1.26120	1.26540	.98990	1.18170	.28000
2.740	145.900	1.20470	1.20410	.93340	1.13550	.26000
2.740	147.900	1.16520	1.16030	.89490	1.11660	.24000
2.740	149.600	1.57640	1.57160	1.24780	1.48960	.16000
2.740	139.900	1.39720	1.40090	1.12330	1.31400	.31000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 29 AUG 75

TABULATED SOURCE DATA, MSFC THT 811 (SA30F)

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MSFC THT 811 (SA30F) SRS - HEAT SHIELD ON SKIRT

(R1J128) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 85/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	130.000	1.31040	1.31040	1.09890	1.25120	.29000
3.480	131.900	1.33240	1.33240	1.12320	1.27660	.28000
3.480	133.900	1.35610	1.35660	1.14860	1.30250	.26010
3.480	135.900	1.48900	1.48750	1.28670	1.43900	.33000
3.480	137.900	1.58050	1.58270	1.32980	1.50810	.33000
3.480	139.900	1.52410	1.52900	1.23370	1.43280	.32000
3.480	141.900	1.42550	1.43510	1.12770	1.33410	.31000
3.480	143.900	1.33470	1.34540	1.04310	1.25230	.30000
3.480	145.900	1.26190	1.26760	.96930	1.18860	.29000
3.480	147.900	1.20840	1.20690	.91230	1.15200	.27000
3.480	149.800	1.15530	1.14970	.86260	1.12490	.26000
3.480	139.900	1.51280	1.51680	1.20550	1.42090	.32000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 28 AUG 75

TABULATED SOURCE DATA, HEFC TNT 811 (SA30F)

HEFC TNT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT

PHI = 180.000 GIMBAL = 5.000

PARAMETRIC DATA

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(R1J129) (08 AUG 75)

REFERENCE DATA

GREY = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
 LREF = 145.0400 IN. YREF = .0000 IN. YN
 BREF = 145.0400 IN. ZREF = .0000 IN. ZN
 SCALE = .0025

RUN NO. 8/ 0 RM/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.954	150.090	1.43340	1.43570	1.28810	1.39880	.33000
1.954	152.000	1.45100	1.45320	1.29950	1.40240	.30000
1.954	154.000	1.35880	1.36070	1.15130	1.28740	.27000
1.954	156.000	1.25250	1.25400	1.00380	1.16230	.24000
1.954	158.000	1.14870	1.15080	.87850	1.03780	.21000
1.954	160.000	.98930	.99150	.71500	.86590	.19000
1.954	162.000	.85470	.85620	.59190	.72630	.16000
1.954	164.020	.70330	.70520	.46740	.58350	.14000
1.954	166.020	.57440	.57550	.37060	.46780	.11000
1.954	168.020	.47320	.47390	.29780	.38080	.08000
1.954	169.920	.37640	.37710	.23270	.29590	.06000
1.954	160.000	.99020	.99100	.71040	.86670	.19000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 111/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.090	1.71400	1.70790	1.27940	1.59380	.14000
2.740	152.000	1.45050	1.43350	1.00080	1.23810	.16000
2.740	154.000	1.09180	1.09180	.74400	.96310	.15000
2.740	156.000	.95140	.95080	.63680	.83760	.13000
2.740	158.000	.83410	.83350	.54860	.72840	.11000
2.740	160.000	.73610	.73740	.48000	.63420	.09000
2.740	162.000	.64440	.64550	.42000	.54610	.07000
2.740	164.000	.56830	.56070	.36290	.46660	.05000
2.740	166.000	.47700	.47940	.31000	.39440	.04000
2.740	168.000	.40530	.40720	.26510	.33310	.02000
2.740	169.900	.34750	.35060	.23090	.28430	.01000
2.740	160.000	.68030	.67670	.40720	.56800	.08000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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TABULATED SOURCE DATA. HEFC TMT 611 (SA30F)

HEFC TMT 611 (SA30F) SWB - HEAT SHIELD ON SKIRT (R1J129) (06 AUG 75)

REFERENCE DATA
SREF = 115.6000 SQ. FT. XPRP = 114.1920 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0035

PARAMETRIC DATA
PMI = 180.000 OIMBAL = 5.000

RUN NO. 112/ 8 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

NACH	ALPHA	CPC1	CPC2	CPC3	CPCN	GAMMA
3.480	150.090	1.15250	1.14240	.83230	1.11760	.28000
3.480	152.000	1.11590	1.10240	.81870	1.10240	.25000
3.480	154.000	1.23820	1.23370	.84110	1.03970	.16000
3.480	156.000	.88360	.88640	.59720	.77480	.16000
3.480	158.020	.76890	.77180	.51340	.67530	.13000
3.480	160.020	.67760	.67960	.44970	.59130	.10000
3.480	162.000	.60080	.60370	.39950	.52020	.07000
3.480	164.000	.53480	.53600	.35490	.45530	.05000
3.480	166.000	.46860	.47090	.31470	.39420	.04000
3.480	168.000	.40790	.40960	.27860	.34140	.02000
3.480	169.900	.35770	.36000	.25230	.30130	.01000
3.480	160.000	.62530	.62570	.38710	.53320	.09000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA
SREF = 115.8000 SQ.FT. 1000P = 114.1850 IN. 2N
LREF = 145.8400 IN. 1000P = .0000 IN. 1N
BREF = 145.8400 IN. 2000P = .0000 IN. 2N
SCALE = .0025
PARAMETRIC DATA
PHI = 180.000 01MEAL = 5.000

RUN NO. 7/ 0 RW/L = 7.6J GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.952	165.100	.64510	.64700	.42360	.53590	.13000
1.952	167.000	.54341	.54530	.34530	.44590	.10000
1.952	169.000	.44680	.44830	.27680	.35780	.07000
1.952	170.980	.34240	.34280	.21040	.26830	.05000
1.952	173.000	.28000	.27960	.17550	.21590	.03000
1.952	175.000	.23690	.23650	.15620	.18370	.01000
1.952	177.000	.19480	.19330	.13150	.14990	.00000
1.952	179.020	.16350	.16350	.11170	.12920	-.02000
1.952	181.020	.12690	.12620	.10050	.10490	-.03000
1.952	183.020	.11060	.11130	.09860	.09860	-.05000
1.952	184.920	.10030	.10070	.09350	.09050	-.07000
1.952	175.000	.22490	.22310	.14730	.17370	.01000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 114/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.100	.52530	.52770	.31870	.42620	.05000
2.740	167.000	.45970	.46030	.28790	.37350	.03000
2.740	169.000	.39060	.39120	.24750	.31540	.02000
2.740	171.000	.33570	.33570	.22030	.27190	.00000
2.740	173.000	.29090	.29150	.19930	.23690	.00000
2.740	175.000	.25550	.25610	.18680	.21110	-.01000
2.740	177.000	.22480	.22480	.17320	.18710	-.01000
2.740	179.000	.19600	.19600	.16250	.17230	-.02000
2.740	181.000	.17230	.17100	.15460	.15770	-.03000
2.740	183.000	.15800	.15920	.15130	.14950	-.03000
2.740	184.900	.15560	.15560	.15070	.14460	-.04000
2.740	175.000	.21020	.20840	.16530	.17740	-.01000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON SKIRT (R:J130) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. IN
LREF = 145.0400 IN. YREF = .0000 IN. YN
BREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 113/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	165.100	.48420	.48420	.31810	.41290	.04000
3.480	167.000	.44210	.44260	.29430	.37040	.03000
3.480	169.000	.38810	.38860	.26410	.32270	.01000
3.480	171.000	.34150	.34090	.23940	.28400	.00000
3.480	173.000	.30430	.30370	.22590	.25750	-.01000
3.480	175.000	.27420	.27310	.21330	.23360	-.01000
3.480	177.000	.24670	.24620	.20160	.21520	-.02000
3.480	179.000	.22080	.22140	.19150	.19990	-.03000
3.480	181.000	.20050	.20050	.18470	.18700	-.03000
3.480	183.000	.19040	.19040	.18580	.18420	-.03000
3.480	184.900	.18700	.18750	.18420	.17850	-.04000
3.480	175.000	.23020	.22860	.19420	.20320	-.01000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 811 (SA30F)

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MSFC THT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

IR1J131) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.0400 IN. YREF = .0000 IN. YN
SREF = 145.0400 IN. ZREF = .0000 IN. ZN
SCALE = .00075

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 42/ 0 RW/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.961	60.100	-.18020	-.18020	-.21190	-.16250	.15000
1.961	62.000	-.17800	-.17670	-.21550	-.18450	.17000
1.961	64.000	-.16710	-.16920	-.21650	-.17800	.13000
1.961	66.000	-.15060	-.15520	-.21030	-.16860	.21000
1.961	68.020	-.13330	-.13790	-.19870	-.15350	.24000
1.961	70.000	-.11130	-.11450	-.18580	-.13530	.26000
1.961	72.000	-.08480	-.08660	-.16760	-.10880	.29000
1.961	74.000	-.04550	-.04830	-.13400	-.07080	.32000
1.961	76.000	.00830	.00690	-.09440	-.01590	.34000
1.961	78.000	.07250	.07180	-.04370	.04920	.36000
1.961	79.900	.13860	.13820	.01330	.11250	.38000
1.961	70.000	-.05630	-.05450	-.11650	-.07550	.26000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 43/ 0 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	60.100	-.03080	-.03070	-.05280	-.03950	.08000
2.740	62.020	-.02980	-.02980	-.05730	-.03980	.09000
2.740	64.000	-.02190	-.02280	-.05980	-.03480	.11000
2.740	66.000	-.00880	-.01050	-.05760	-.02530	.11000
2.740	68.020	.01470	.00890	-.05020	-.00940	.12000
2.740	70.000	.03300	.03010	-.03670	.01440	.13000
2.740	72.000	.06550	.06020	-.01800	.04110	.15000
2.740	74.000	.09920	.09620	.00140	.06960	.16000
2.740	76.000	.13690	.13520	.02300	.10620	.17000
2.740	78.000	.18070	.18020	.05090	.15810	.18000
2.740	79.900	.23240	.23160	.09110	.21820	.19000
2.740	70.000	.12830	.12780	.04320	.11340	.14000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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OF POOR QUALITY

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 811 (SA30F)

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MSFC THT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(RIJ131) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XGRP = 114.1850 IN. XN
LREF = 145.8400 IN. YGRP = .0000 IN. YN
BREF = 145.8400 IN. ZGRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 44, 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	60.080	.03870	.03580	.01350	.02730	.07000
3.480	61.970	.02950	.02690	.00470	.02070	.09000
3.480	64.000	.03330	.03260	.00190	.02310	.10000
3.480	66.000	.04590	.04330	.00170	.03010	.11000
3.480	68.000	.06470	.05780	.00660	.04180	.12000
3.480	70.000	.08250	.07690	.01860	.06300	.13000
3.480	72.000	.11330	.10630	.03590	.08480	.14000
3.480	74.000	.14040	.13700	.04960	.10660	.15000
3.480	76.000	.17060	.16870	.06820	.14040	.16000
3.480	78.000	.20570	.20550	.09300	.18700	.17000
3.480	79.900	.24710	.24550	.12440	.21990	.19000
3.480	70.000	.16740	.16440	.08740	.14660	.13000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SFB - HEAT SHIELD ON NOZZLE (R1J132) (06 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1250 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 29/ 0 RN/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.959	80.000	.06630	.06560	-.04040	.04520	.36000
1.959	81.900	.13010	.12910	.00680	.10580	.38000
1.959	83.900	.20080	.20110	.06180	.17570	.39000
1.959	85.920	.27410	.27270	.12060	.25320	.40000
1.959	87.900	.33890	.33850	.18210	.31940	.40000
1.959	89.900	.39980	.39950	.23460	.35030	.40000
1.959	91.900	.46940	.46900	.27810	.40820	.41000
1.959	93.920	.51730	.51730	.30170	.45320	.41000
1.959	95.900	.53830	.53650	.31460	.48250	.42000
1.959	97.900	.57020	.55880	.32690	.53170	.42000
1.959	99.800	.62080	.61900	.35550	.60080	.42000
1.959	99.900	.40610	.40720	.24510	.35760	.40000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 70/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	80.000	.22750	.22570	.09750	.20200	.19000
2.740	81.900	.27091	.26910	.12760	.25630	.20000
2.740	83.900	.32610	.32370	.17260	.30910	.21000
2.740	85.900	.38800	.38500	.21990	.35530	.21000
2.740	87.900	.44080	.43780	.26480	.39410	.22000
2.740	89.900	.49850	.49550	.31220	.44150	.23000
2.740	91.900	.55010	.54710	.34620	.48880	.24000
2.740	93.900	.59020	.58710	.36680	.54220	.25000
2.740	95.900	.62730	.62420	.38670	.58840	.24000
2.740	97.900	.67450	.67210	.41230	.64300	.24000
2.740	99.800	.71020	.70660	.43060	.68780	.23000
2.740	99.900	.53430	.53310	.35160	.48780	.24000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC THT 811 (SA30F)

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MSFC THT 811 (SA30F) SNB - HEAT SHIELD ON NOZZLE

(RIJ132) (06 AUG 75)

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.8400 IN. YREF = .0000 IN. YM
BREF = 145.8400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PHI = 180.000 GIMBAL = .000

PARAMETRIC DATA

RUN NO. 69/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	80.000	.25080	.24800	.13630	.23500	.18000
3.480	81.900	.28190	.27900	.15660	.26380	.19000
3.480	83.800	.32570	.32290	.18420	.29520	.20000
3.480	85.900	.37190	.36910	.21970	.33020	.22000
3.480	87.900	.42890	.42550	.26480	.38830	.24000
3.480	89.900	.47960	.47680	.30310	.43170	.26000
3.480	91.900	.52640	.52250	.33240	.47230	.27000
3.460	93.900	.56760	.56420	.35270	.51630	.27000
3.480	95.900	.61830	.61490	.37980	.57260	.26000
3.480	97.900	.67130	.66850	.41420	.63180	.26000
3.480	99.800	.71850	.71450	.44710	.68460	.25000
3.480	99.900	.52080	.52020	.35050	.47900	.26000
3.480	GRADIENT	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 118.0000 90.FT.

YREF = 145.0000 IN.

ZREF = 145.0000 IN.

SCALE = .0025

XREF = 114.1950 IN. IN

YREF = .0000 IN. IN

ZREF = .0000 IN. IN

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 28/ 0		RM/L = 7.58		GRADIENT INTERVAL = -5.00/ 5.00			
MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA	
1.962	100.000	.63800	.63420	.37860	.60830	.43000	
1.962	101.920	.68140	.67830	.39810	.66910	.44000	
1.962	103.900	.68730	.66620	.38590	.68620	.44000	
1.962	105.920	.67430	.67360	.38900	.67290	.43000	
1.962	107.920	.65640	.65570	.37490	.64540	.45000	
1.962	109.900	.63180	.63080	.35340	.60600	.45000	
1.962	111.900	.62570	.62470	.34550	.59180	.45000	
1.962	113.900	.60770	.60700	.32900	.57430	.46000	
1.962	115.900	.59310	.59200	.31680	.55870	.46000	
1.962	117.900	.58460	.58390	.30820	.55200	.47000	
1.962	119.800	.57650	.57610	.30170	.54790	.47000	
1.962	109.900	.63220	.63080	.35180	.60530	.45000	
	GRADIENT	.00000	.00000	.00000	.00000	.00000	

RUN NO 71/ 0		RM/L = 5.20		GRADIENT INTERVAL = -5.00/ 5.00			
MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA	
2.740	100.000	.73460	.73340	.45060	.71520	.24000	
2.740	101.900	.73140	.73020	.44940	.71590	.24000	
2.740	103.900	.71990	.71870	.44030	.69810	.24000	
2.740	105.920	.70730	.70550	.42750	.67390	.24000	
2.740	107.900	.68610	.68480	.41170	.64240	.24000	
2.740	109.900	.66480	.66360	.39530	.61870	.24000	
2.740	111.900	.64900	.64840	.38080	.60530	.25000	
2.740	113.900	.63450	.63260	.36800	.59080	.26000	
2.740	115.900	.62110	.61990	.35650	.57740	.26000	
2.740	117.900	.61080	.60960	.34740	.56770	.26000	
2.740	119.800	.60110	.59930	.33930	.55680	.26000	
2.740	109.900	.65630	.65450	.37770	.60960	.25000	
	GRADIENT	.00000	.00000	.00000	.00000	.00000	

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DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TNT 811 (SA30F)

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MSFC TNT 811 (SA30F) SFB - HEAT SHIELD ON NOZZLE (RIJ133) (06 AUG 75)

REFERENCE DATA

SREF = 115.8900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 72/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	100.000	.71010	.70840	.44530	.67800	.25000
3.480	101.900	.74010	.73790	.46820	.71140	.24000
3.480	103.800	.73620	.73560	.46980	.71200	.24000
3.480	105.900	.72430	.72320	.46160	.69160	.24000
3.480	107.900	.70510	.70400	.44690	.66120	.24000
3.480	109.900	.68710	.68480	.43000	.63920	.25000
3.480	111.900	.67020	.66790	.41530	.62560	.25000
3.480	113.900	.65890	.65720	.40400	.61770	.26000
3.480	115.900	.64880	.64710	.39390	.60760	.27000
3.480	117.900	.63970	.63750	.38770	.60140	.27000
3.480	119.800	.63300	.63010	.38150	.59330	.27000
3.480	109.900	.67860	.67640	.41420	.63070	.25000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 76

TABULATED SOURCE DATA, MSFC TWT 811 (8A30F)

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MSFC TWT 811 (8A30F) SWS - HEAT SHIELD ON NOZZLE

(R1J134) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. ZMRP = 114.1850 IN. XN
LREF = 145.8400 IN. YMRP = .0000 IN. YN
BREF = 145.8400 IN. ZMRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = .000

RUN NO. 18/ 0 RN/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.953	130.020	.56270	.56340	.29180	.54270	.57000
1.953	131.900	.54510	.54550	.28230	.52630	.57060
1.953	133.820	.54080	.54270	.28180	.51900	.56000
1.953	135.900	.55080	.56380	.29810	.53380	.55000
1.953	137.900	.55620	.55810	.29550	.52690	.53000
1.953	139.900	.52640	.52820	.27590	.49370	.51000
1.953	141.900	.49020	.49240	.25190	.45310	.48000
1.953	143.920	.45490	.45720	.23330	.41510	.46000
1.953	145.920	.42140	.42210	.21460	.38900	.43000
1.953	147.920	.35300	.35380	.16830	.32480	.39000
1.953	149.820	.36570	.36420	.18890	.34220	.38000
1.953	139.900	.52770	.52930	.27350	.49610	.50000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 98/ 0 RN/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	130.000	.63590	.63350	.37420	.60630	.34000
2.740	131.900	.61380	.61260	.36450	.58100	.35000
2.740	133.900	.61870	.61810	.37120	.58470	.36000
2.740	135.900	.63590	.63310	.38320	.59620	.36000
2.740	137.900	.63260	.63390	.38200	.58650	.35000
2.740	139.900	.60110	.60050	.36360	.55310	.34000
2.740	141.900	.55620	.55500	.33460	.50840	.33000
2.740	143.900	.50880	.50760	.30730	.45970	.31000
2.740	145.900	.47000	.46940	.28790	.42320	.30000
2.740	147.900	.44210	.44080	.27210	.39530	.28000
2.740	149.800	.41900	.41780	.26120	.37350	.26000
2.740	139.900	.56100	.55860	.32190	.51060	.34000
	GRADIENT	.00000	.00700	.00000	.00000	.00000

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MSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

REFERENCE DATA

SREF = 115.86 0 SQ.FT. XREF = 114.1850 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8700 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 87/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	QALPHA
3.480	130.000	.67020	.67020	.41930	.64540	.30000
3.480	131.900	.64830	.64910	.40820	.62200	.31000
3.480	133.900	.63160	.63100	.39980	.60170	.39000
3.480	135.900	.65980	.66150	.41720	.62310	.38000
3.480	137.900	.69190	.69360	.43190	.64570	.38000
3.480	139.900	.64960	.65130	.40990	.60170	.37000
3.480	141.500	.58250	.58140	.36990	.53460	.35000
3.480	143.900	.52890	.52890	.33770	.48270	.34000
3.480	145.900	.48810	.48750	.31270	.44180	.33000
3.480	147.900	.45540	.45590	.29640	.41190	.31000
3.480	149.800	.43250	.43250	.28690	.39240	.29000
3.480	139.900	.60650	.60360	.36060	.55350	.36000
GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABLATED SOURCE DATA, MSFC TWT 811 (SASOF)

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MSFC TWT 811 (SASOF) SWS - HEAT SHIELD ON NOZZLE (R1J135) (08 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
 LREF = 145.6400 IN. YREF = .0000 IN. YN
 SREF = 145.6400 IN. ZREF = .2000 IN. ZN
 SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 14/ 0 RW/L = 7.13 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.937	150.120	.36220	.36260	.18010	.33490	.39000
1.937	152.020	.38400	.37980	.22070	.36070	.37000
1.937	154.020	.40120	.39600	.25390	.38060	.34000
1.937	156.000	.39790	.39270	.25760	.37130	.31000
1.937	158.000	.35270	.35150	.20290	.31080	.26000
1.937	160.000	.31630	.31740	.17780	.27260	.22000
1.937	162.020	.26290	.26370	.15950	.23810	.18000
1.937	164.020	.25940	.25940	.15760	.21700	.15000
1.937	166.020	.24150	.24150	.15720	.20510	.11000
1.937	168.020	.22050	.22050	.15160	.18430	.08000
1.937	169.920	.19330	.19410	.13410	.15460	.06000
1.937	180.000	.31200	.31240	.17740	.26870	.21000
	GRADIENT	.00700	.00000	.00000	.00000	.00000

RUN NO. 99/ 0 RW/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.090	.41780	.41780	.25450	.38010	.22000
2.740	152.000	.42070	.42010	.25970	.36000	.20000
2.740	154.000	.41220	.41040	.25970	.37030	.18000
2.740	156.020	.39350	.39170	.25390	.34980	.16000
2.740	158.000	.37270	.37090	.24880	.32840	.14000
2.740	160.000	.35470	.35220	.24540	.31030	.12000
2.740	162.000	.33930	.33630	.24330	.28680	.10000
2.740	164.000	.32470	.32170	.24150	.26400	.08000
2.740	166.000	.31380	.30950	.24450	.27610	.06000
2.740	168.000	.30250	.29880	.24480	.26970	.05000
2.740	169.900	.29130	.28650	.24390	.26850	.03000
2.740	180.000	.33450	.32960	.24330	.29010	.11000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TWT 811 (SA30F)

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NSFC TWT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(R1J135) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1050 IN. XM
LREF = 145.0400 IN. YREF = .0000 IN. YM
BREF = 145.0400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

ALIN NO. 100/ 0 RN/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GA #A
3.480	150.090	.43810	.43840	.28740	.39520	.23700
3.480	152.000	.44710	.44490	.29770	.39810	.21000
3.480	154.000	.43870	.43840	.29650	.39070	.18000
3.480	156.000	.41890	.41670	.28920	.37440	.16000
3.480	158.000	.39300	.39130	.28070	.35180	.14000
3.480	160.000	.36930	.36700	.27110	.32870	.12000
3.480	162.000	.35120	.34840	.26610	.31290	.10000
3.480	164.000	.33600	.33260	.26270	.29940	.08000
3.480	166.000	.32530	.32190	.26490	.29150	.06000
3.480	168.000	.31550	.31160	.26650	.28680	.05000
3.480	169.900	.30720	.30330	.26720	.28020	.04000
3.480	180.000	.34710	.34320	.26760	.30930	.11000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SHS - HEAT SHIELD ON NOZZLE (RIJ136) (08 AUG 75)

REFERENCE DATA

SREF = 115.8000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.8400 IN. YREF = .0000 IN. YN
BREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PMI = 180.000 OIMBAL = .000

RUN NO. 4/ 0 RM/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.943	165.100	.27200	.27200	.16980	.23140	.14000
1.943	167.000	.24630	.24630	.16260	.20970	.10000
1.943	169.000	.21820	.21700	.14780	.18020	.08000
1.943	170.980	.19710	.19410	.14000	.15280	.06000
1.943	173.000	.20800	.20590	.16290	.17420	.06000
1.943	175.000	.20740	.20780	.17190	.18350	.03000
1.943	177.000	.25320	.25320	.24350	.24240	.02000
1.943	179.020	.29910	.29980	.29350	.29200	.00000
1.943	181.020	.30970	.30930	.29820	.29110	.01000
1.943	183.020	.27720	.27790	.25030	.23200	.00000
1.943	184.920	.26790	.26870	.22860	.20120	-.02000
1.943	175.000	.21950	.22030	.19120	.19610	.03000
GRADIENT		.00000	.00000	.00000	.00000	.00000

RUN NO. 126/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.100	.30060	.29820	.23640	.26670	.07000
2.740	167.000	.29480	.29290	.23900	.26320	.06000
2.740	169.000	.28730	.28610	.24300	.25940	.04000
2.740	171.000	.27450	.27210	.24120	.24720	.03000
2.740	173.000	.26970	.26660	.24360	.24720	.03000
2.740	175.000	.26690	.26630	.28080	.27350	.01000
2.740	177.000	.34190	.34250	.33950	.33890	.01000
2.740	179.000	.37950	.37890	.37350	.37650	.00000
2.740	181.000	.38700	.38760	.37850	.37660	.01000
2.740	183.000	.35950	.36130	.34430	.33460	.00000
2.740	184.900	.33100	.33400	.30370	.28610	.00000
2.740	175.000	.31700	.31880	.31030	.30250	.02000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SRB - HEAT SHIELD ON NOZZLE

(RIJ136) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = .000

RUN NO. 125/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	165.100	.31180	.31010	.25870	.28240	.07000
3.480	167.000	.30710	.30590	.25910	.27890	.06000
3.480	169.000	.30090	.29970	.26420	.27780	.04000
3.480	171.000	.29170	.29050	.26460	.27030	.03000
3.480	173.000	.28600	.28430	.26690	.26860	.02000
3.480	175.000	.30460	.30290	.30010	.29280	.02000
3.480	177.000	.34770	.34600	.34370	.34200	.01000
3.480	179.000	.38320	.38320	.37810	.38040	.01000
3.480	181.000	.38520	.38640	.37790	.37680	.00000
3.480	183.000	.36270	.36490	.35030	.34240	.00000
3.480	184.900	.33920	.34200	.31720	.30310	.00000
3.480	175.000	.33000	.33110	.32490	.31650	.02000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC THT 811 (SA30F)

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NSFC THT 811 (SA30F) SUB - HEAT SHIELD ON NOZZLE

(R1J137) (06 AUG 75)

REFERENCE DATA

SREF = 115.8000 90.FT. 1000P = 114.1920 IN. XM
LREF = 145.8400 IN. 1000P = .0000 IN. TM
SREF = 145.8400 IN. 2000P = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 41/ 0 RV/L = 7.57 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.961	60.080	-.16940	-.16720	-.16790	-.16290	.15000
1.961	62.000	-.15280	-.15770	-.15990	-.16270	.17000
1.961	64.000	-.13320	-.13780	-.16950	-.14760	.19000
1.961	66.000	-.10960	-.11030	-.16080	-.12760	.21000
1.961	68.000	-.07930	-.07830	-.13590	-.09770	.24000
1.961	70.000	-.03990	-.03850	-.10910	-.06430	.26000
1.961	72.000	.00870	.00380	-.07530	-.01900	.28000
1.961	74.020	.06680	.05800	-.03450	.03370	.31000
1.961	76.000	.13490	.12640	.01500	.09470	.34000
1.961	78.000	.20000	.19860	.07380	.17150	.36000
1.961	79.900	.27270	.27170	.13330	.24350	.38000
1.961	70.000	.01300	.01550	-.04710	-.00900	.26000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 46/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	60.080	-.00160	-.00260	-.01290	-.00650	.08000
2.740	61.970	-.00890	-.00970	-.01530	-.01230	.09000
2.740	64.000	-.00260	-.00150	-.00970	-.00540	.10000
2.740	66.000	.02240	.02360	-.00970	.01560	.11000
2.740	68.000	.09440	.09540	.00390	.04180	.12000
2.740	70.000	.10050	.09730	.03070	.08050	.13000
2.740	72.000	.14560	.14190	.06120	.12320	.14000
2.740	74.000	.19610	.18970	.09490	.16590	.15000
2.740	76.000	.25280	.24690	.13490	.21120	.17000
2.740	78.000	.31230	.30670	.18030	.26300	.18000
2.740	79.900	.37290	.36570	.22730	.31900	.19000
2.740	70.000	.21060	.20570	.13210	.18240	.14000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SR8 - HEAT SHIELD ON NOZZLE

(R1J137) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
GREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 45/ 0 RV/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	OAMPA
3.480	60.100	.04690	.04570	.03580	.04060	.07000
3.480	61.970	.04003	.03890	.03330	.03470	.09000
3.480	64.000	.05290	.05060	.04460	.04070	.10000
3.480	66.020	.07550	.07210	.04420	.06210	.09000
3.480	68.000	.10250	.09900	.05490	.08730	.11000
3.480	70.000	.14230	.13680	.07700	.12180	.12000
3.480	72.000	.18300	.17480	.10210	.15640	.14000
3.480	74.000	.22790	.21840	.13060	.18860	.15000
3.480	76.000	.27450	.26550	.16240	.22700	.16000
3.480	78.000	.32300	.31320	.19850	.26960	.17000
3.480	79.900	.37210	.36100	.23410	.31160	.19000
3.480	70.000	.24020	.23330	.16270	.20830	.13000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

HSEFC TMT 811 (SA30F) SUB - HEAT SHIELD ON NOZZLE (RIJ138) (06 AUG 75)

REFERENCE DATA

PARAMETRIC DATA

SREF = 115.6500 SQ.FT. XREF = 114.1850 IN. XN

LREF = 145.6400 IN. YREF = .0000 IN. YN

BREF = 145.6400 IN. ZREF = .0000 IN. ZN

SCALE = .0025

PHI = 180.000 OIMBAL = 5.000

RUN NO. 30/ 0 RV/L = 7.59 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.955	78.980	.19470	.18910	.08350	.14770	.37000
1.955	81.900	.26440	.25810	.11720	.21080	.38000
1.955	83.900	.34500	.34040	.18000	.28850	.40000
1.955	85.920	.43290	.43040	.25270	.38010	.41000
1.955	87.920	.51380	.50990	.32250	.45460	.42000
1.955	89.900	.58800	.58370	.39150	.51400	.44000
1.955	91.900	.66600	.66150	.46100	.58440	.45000
1.955	93.900	.73270	.72740	.51520	.65140	.47000
1.955	95.900	.78850	.78360	.56180	.71010	.47000
1.955	97.900	.83960	.83540	.60380	.76410	.47000
1.955	99.800	.89060	.88770	.64750	.81860	.47000
1.955	89.900	.59970	.59610	.40850	.52720	.44000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 67/ 0 RV/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	80.000	.36060	.35450	.21480	.30830	.19000
2.740	81.900	.41470	.40990	.29450	.35770	.20000
2.740	83.900	.48140	.47290	.30750	.42060	.20000
2.740	85.900	.54280	.53310	.35940	.47300	.22000
2.740	87.900	.60780	.59690	.41340	.52640	.24000
2.740	89.900	.66980	.66070	.46810	.59260	.25000
2.740	91.900	.73240	.72930	.52580	.65820	.27000
2.740	93.900	.80460	.79800	.58110	.72260	.28000
2.740	95.900	.86960	.86300	.63210	.78640	.28000
2.740	97.900	.93590	.92920	.68250	.85140	.27000
2.740	99.800	.99200	.98530	.72980	.90880	.27000
2.740	89.900	.70180	.69840	.51730	.62840	.25000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(R1J138) (08 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XREF = 114.1950 IN. XN
LREF = 145.6400 IN. YREF = .0000 IN. YN
BREF = 145.6400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 88/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	OAPPA
3.480	80.000	.37300	.36290	.23720	.31520	.18000
3.480	81.900	.41870	.40800	.26700	.35330	.19000
3.480	83.900	.47230	.46210	.30370	.39730	.21000
3.480	85.900	.53010	.51880	.34790	.44770	.22000
3.480	87.900	.58310	.57520	.39470	.50640	.24000
3.480	89.900	.63690	.63010	.44750	.56810	.27000
3.480	91.900	.69090	.69330	.49600	.62450	.30000
3.480	93.900	.76720	.75810	.54160	.68430	.30000
3.480	95.900	.84210	.83370	.59290	.75140	.29000
3.480	97.900	.94590	.93520	.66620	.83880	.29000
3.480	99.800	1.00230	.99550	.71250	.91320	.28000
3.480	89.900	.67610	.67330	.50190	.61020	.27000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TMT 811 (SA30F)

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(R1J139) (08 AUG 75)

MSFC TMT 811 (SA30F) SPB - HEAT SHIELD ON NOZZLE

REFERENCE DATA

SPEJ = 115.0000 SQ.FT. XPRP = 114.1950 IN. XM
LREF = 145.8400 IN. YPRP = .0000 IN. YM
BREF = 145.8400 IN. ZPRP = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 27/ 0 RN/L = 7.55 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.965	99.980	.90680	.90470	.66210	.83710	.47000
1.965	101.900	.98130	.98130	.70980	.89380	.48000
1.965	103.880	.97810	.97770	.73420	.90620	.49000
1.965	105.920	1.04660	1.04240	.78810	.96330	.48000
1.965	107.920	1.11450	1.11590	.86500	1.05590	.48000
1.965	109.900	1.08590	1.08660	.84410	1.02640	.48000
1.965	111.900	1.08010	1.08180	.83260	1.01630	.47000
1.965	113.900	1.06860	1.06960	.81200	1.00190	.47000
1.965	115.900	1.06660	1.06770	.80280	.99730	.47000
1.965	117.900	1.06690	1.06720	.80150	.99530	.46000
1.965	119.800	1.06830	1.06940	.79700	.99780	.46000
1.965	109.900	1.09970	1.10080	.85950	1.04250	.47000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 74/ 0 RN/L = 5.19 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	99.980	1.01950	1.01590	.75570	.93880	.27000
2.740	101.900	1.06890	1.06770	.79580	.99660	.27000
2.740	103.880	1.10350	1.10660	.84110	1.02940	.26000
2.740	105.900	1.15880	1.15880	.91160	1.08890	.26000
2.740	107.900	1.15090	1.15090	.92740	1.09020	.26000
2.740	109.900	1.12600	1.12480	.89580	1.05490	.26000
2.740	111.900	1.10840	1.10720	.87270	1.03670	.26000
2.740	113.900	1.09320	1.09440	.85630	1.02090	.26000
2.740	115.900	1.08590	1.08590	.84530	1.01240	.26000
2.740	117.900	1.07800	1.07800	.83500	1.00270	.25000
2.740	119.800	1.07440	1.07440	.82530	.99660	.25000
2.740	109.900	1.12170	1.12170	.88910	1.05010	.26000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TWT 811 (SA30F)

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MSFC TWT 811 (SA30F) SRB - HEAT SHIELD ON NOZZLE

(R1J139) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.6400 IN. YREF = .0000 IN. YM
BREF = 145.6400 IN. ZREF = .0000 IN. ZM
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 73/ 0 RN/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	99.980	.99750	.99190	.71090	.91130	.28000
3.480	101.900	1.03520	1.03130	.75080	.95130	.28000
3.480	103.900	1.07790	1.07450	.79890	.99960	.28000
3.480	105.900	1.11510	1.12640	.84630	1.03790	.27000
3.480	107.900	1.15570	1.15450	.91220	1.08630	.27000
3.480	109.900	1.15790	1.15790	.93700	1.09480	.27000
3.480	111.900	1.12690	1.12630	.90080	1.05920	.27000
3.480	113.900	1.11170	1.11170	.88060	1.04290	.27000
3.480	115.900	1.10610	1.10550	.87220	1.03510	.27000
3.480	117.900	1.10270	1.10270	.86430	1.02940	.27000
3.480	119.800	1.09930	1.09980	.85460	1.02430	.26000
3.480	109.900	1.15840	1.15670	.93050	1.09410	.27000
GRADIENT		.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA, NSFC TMT 811 (SA30F)

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NSFC TMT 811 (SA30F) SFB - HEAT SHIELD ON NOZZLE (R1J140) (06 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XPPP = 114.1950 IN. XN
LREF = 145.0400 IN. YPPP = .0000 IN. YN
BREF = 145.0400 IN. ZPPP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 18/ 0 RW/L = 7.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.962	130.020	1.05460	1.05800	.72200	.96840	.48000
1.962	131.920	1.03450	1.03790	.69400	.94150	.49000
1.962	133.820	1.01100	1.01400	.65930	.91220	.51000
1.962	135.900	.99280	.99620	.62840	.88540	.51000
1.962	137.900	.97830	.98130	.61080	.86310	.50000
1.962	139.900	1.01300	1.01530	.64230	.88540	.49000
1.962	141.920	.96130	.96320	.61620	.85840	.47000
1.962	143.920	.94170	.94360	.59830	.81450	.45000
1.962	145.920	.85750	.85900	.53270	.73170	.42000
1.962	147.940	.80930	.81190	.50070	.68860	.39000
1.962	148.900	.69020	.68870	.41650	.56880	.35000
1.962	149.900	1.00460	1.00680	.63370	.87940	.48000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 95/ 6 RW/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	130.000	1.05870	1.05870	.75100	.96590	.24000
2.740	131.900	1.02780	1.02720	.71760	.93070	.24000
2.740	133.900	.98890	.98830	.68180	.88880	.24000
2.740	135.900	.94340	.94400	.63630	.83840	.32000
2.740	137.900	.94830	.94950	.63630	.83290	.33000
2.740	139.900	.96770	.97010	.64480	.84390	.33000
2.740	141.900	.94520	.94650	.62960	.82630	.32000
2.740	143.900	.88640	.88640	.58890	.77290	.32000
2.740	145.900	.81290	.81350	.54280	.71030	.30000
2.740	147.900	.73950	.73830	.49550	.64480	.29000
2.740	149.800	.67330	.67210	.45540	.58890	.26000
2.740	153.900	.94710	.94710	.61440	.82200	.32000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SWS - HEAT SHIELD V NOZZLE (RIJ140) (08 AUG 75)

REFERENCE DATA

SREF = 115.6000 SQ.FT. XMRP = 114.1950 IN. XN
LREF = 145.6400 IN. YMRP = .0000 IN. YN
BREF = 145.6400 IN. ZMRP = .0000 IN. ZN
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 98/ 0 RM/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	QUADRA
3.480	130.000	1.08790	1.08790	.77430	.99320	.27000
3.480	131.900	1.05600	1.05630	.74440	.95590	.27000
3.480	133.800	1.01970	1.01910	.71220	.91760	.27000
3.480	135.900	.97240	.97240	.67410	.87430	.27000
3.480	137.900	.92950	.93120	.63520	.83030	.35000
3.480	139.900	.86340	.86680	.65500	.84890	.35000
3.480	141.800	.98710	.98930	.66280	.86190	.34000
3.480	143.900	.92110	.92110	.62340	.81060	.34000
3.480	145.900	.81280	.81280	.55630	.71870	.32000
3.480	147.900	.72750	.72800	.50190	.64570	.30000
3.480	149.800	.65980	.65920	.46180	.58760	.29000
3.480	139.900	.94920	.95080	.62760	.83350	.34000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 78

TABULATED SOURCE DATA, MSFC TWT 611 (SAJOF)

PAGE 165

MSFC TWT 611 (SAJOF) SWS - HEAT SHIELD ON NOZZLE (RIJINI) (06 AUG 75)

REFERENCE DATA

SREF = 113.0000 90.FT. XREF = 114.1950 IN. IN
LREF = 145.8400 IN. YREF = .0000 IN. YN
SREF = 145.8400 IN. ZREF = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 OIMBAL = 5.000

RUN NO. 13/ 0 RV/L = 7.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.944	150.120	.53920	.53090	.18460	.37260	.35000
1.944	152.020	.50270	.48760	.22260	.34870	.34000
1.944	154.020	.47250	.46030	.14520	.36020	.30000
1.944	156.000	.43840	.42900	.11640	.30730	.27000
1.944	158.000	.40290	.39380	.10360	.27760	.25000
1.944	160.000	.37490	.36960	.09700	.25930	.21000
1.944	162.020	.33950	.33740	.08720	.22570	.17000
1.944	164.020	.29420	.29460	.07590	.18800	.14000
1.944	166.020	.24790	.24820	.06500	.15760	.11000
1.944	168.020	.20500	.20694	.05430	.12970	.08000
1.944	169.920	.17440	.17630	.04870	.10930	.05000
1.944	160.000	.37390	.36930	.09710	.25940	.21000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 102/ 0 RV/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	150.090	.74030	.73910	.49150	.64240	.27000
2.740	152.000	.67760	.67700	.46090	.59260	.25000
2.740	154.000	.62660	.62600	.43230	.55010	.22000
2.740	156.000	.61570	.61440	.43420	.54220	.16000
2.740	158.000	.59380	.59260	.42680	.52030	.13000
2.740	160.000	.55560	.55500	.41100	.48810	.11000
2.740	162.000	.51370	.51190	.39170	.45240	.09000
2.740	164.000	.47730	.47540	.37530	.42080	.07000
2.740	166.000	.44510	.44390	.35830	.39470	.05000
2.740	168.000	.41660	.41290	.34310	.36980	.03000
2.740	169.900	.38990	.38620	.32790	.34740	.02000
2.740	160.000	.52460	.52040	.38800	.45660	.11000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

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OF 1000. G.L. 101

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TWT 611 (SA30F)

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MSFC TWT 611 (SA30F) SWS - HEAT SHIELD ON NOZZLE

(RIJ141) (06 AUG 75)

REFERENCE DATA

SREF = 115.6900 SQ.FT. XPRP = 114.1950 IN. XN
LREF = 145.6400 IN. YPRP = .0000 IN. YN
BREF = 145.6400 IN. ZPRP = .0000 IN. ZN
SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 101/ 0 RW/L = 7.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	150.090	.71870	.71870	.49310	.63580	.29000
3.480	152.000	.65750	.65920	.46010	.58310	.27000
3.480	154.000	.62760	.62650	.45000	.56220	.19000
3.480	156.000	.61300	.61130	.45160	.54470	.16000
3.480	158.000	.59830	.59660	.45000	.53170	.14000
3.480	160.000	.56470	.56300	.43340	.50610	.11000
3.480	162.000	.51820	.51600	.40880	.46520	.09000
3.480	164.000	.47760	.47650	.38620	.42910	.07000
3.480	166.000	.44240	.44070	.36680	.39950	.05000
3.480	168.020	.41220	.40990	.34960	.37270	.03000
3.480	169.900	.38850	.38570	.33710	.35410	.01000
3.480	160.000	.52780	.52330	.40310	.46970	.10000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

DATE 20 AUG 75

TABULATED SOURCE DATA. MSFC TMT 811 (SA30F)

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MSFC TMT 811 (SA30F) 998 - HEAT SHIELD ON NOZZLE (R1J142) (08 AUG 75)

REFERENCE DATA

SREF = 115.0000 SQ.FT. XREF = 114.1950 IN. XM
LREF = 145.8400 IN. YREF = .0000 IN. YM
BREF = 145.8400 IN. ZREF = .0000 IN. ZM
SCALE = .0025

PARAMETRIC DATA

PHI = 180.000 01MBAL = 5.000

RUN NO. 3/ 0 RM/L = 7.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
1.953	165.120	.47800	.47830	.33570	.40950	.13000
1.953	167.000	.42370	.42370	.30630	.38310	.10000
1.953	169.020	.37590	.37590	.27890	.32170	.07000
1.953	171.000	.33200	.33080	.25650	.28680	.04000
1.953	173.000	.29730	.29540	.23140	.25150	.01000
1.953	175.000	.25400	.25250	.19430	.20530	.00000
1.953	177.000	.22130	.22050	.17440	.18150	-.02000
1.953	179.020	.19770	.19470	.15820	.16010	-.03000
1.953	181.020	.21630	.21450	.19370	.19550	-.04000
1.953	183.020	.25500	.25350	.24600	.24380	-.05000
1.953	184.920	.27680	.27570	.26930	.26670	-.06000
1.953	175.000	.25730	.25620	.19910	.20930	.00000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

RUN NO. 123/ 0 RM/L = 5.20 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
2.740	165.100	.44330	.44150	.35040	.39170	.07000
2.740	167.000	.42320	.42200	.34560	.37770	.05000
2.740	169.000	.39590	.39290	.33220	.35530	.03000
2.740	171.000	.36920	.36740	.31760	.33340	.01000
2.740	173.000	.34490	.34250	.30250	.31340	.00000
2.740	175.000	.31760	.31460	.28060	.28670	-.01000
2.740	177.000	.29500	.29440	.26520	.26950	-.02000
2.740	179.000	.28530	.28400	.26220	.26460	-.02000
2.740	181.000	.30590	.30530	.29680	.29380	-.03000
2.740	183.000	.34300	.34110	.34110	.33930	-.03000
2.740	184.900	.34620	.34560	.34490	.34310	-.03000
2.740	175.000	.31460	.31460	.29210	.29270	-.01000
	GRADIENT	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SRF = 115.6400 SQ.FT. XPRP = 114.1950 IN. XN

LREF = 145.6400 IN. YPRP = .0000 IN. YN

BREF = 145.6400 IN. ZPRP = .0000 IN. ZN

SCALE = .0055

PARAMETRIC DATA

PHI = 180.000 GIMBAL = 5.000

RUN NO. 124/ 0		RV/L = 7.12		GRADIENT INTERVAL = -5.00/ 5.00		
MACH	ALPHA	CPC1	CPC2	CPC3	CPC4	GAMMA
3.480	165.100	.44240	.44130	.36400	.40120	.06000
3.480	167.000	.41530	.41450	.35050	.37750	.04000
3.480	169.000	.39090	.38970	.33680	.35710	.02000
3.480	171.000	.36660	.36510	.32270	.33620	.01000
3.480	173.000	.34650	.34480	.31100	.32120	.00000
3.480	175.000	.32570	.32400	.29520	.30200	-.01000
3.480	177.000	.30580	.30580	.28150	.28380	-.02000
3.480	179.000	.29840	.29340	.28150	.28380	-.03000
3.480	181.000	.31670	.31610	.30930	.30590	-.03000
3.480	183.000	.34480	.34430	.34320	.34150	-.03000
3.480	184.900	.35050	.34990	.34820	.34770	-.03000
3.480	175.000	.32440	.32380	.30520	.30750	-.02000
GRADIENT		.00000	.00000	.00000	.00000	.00000